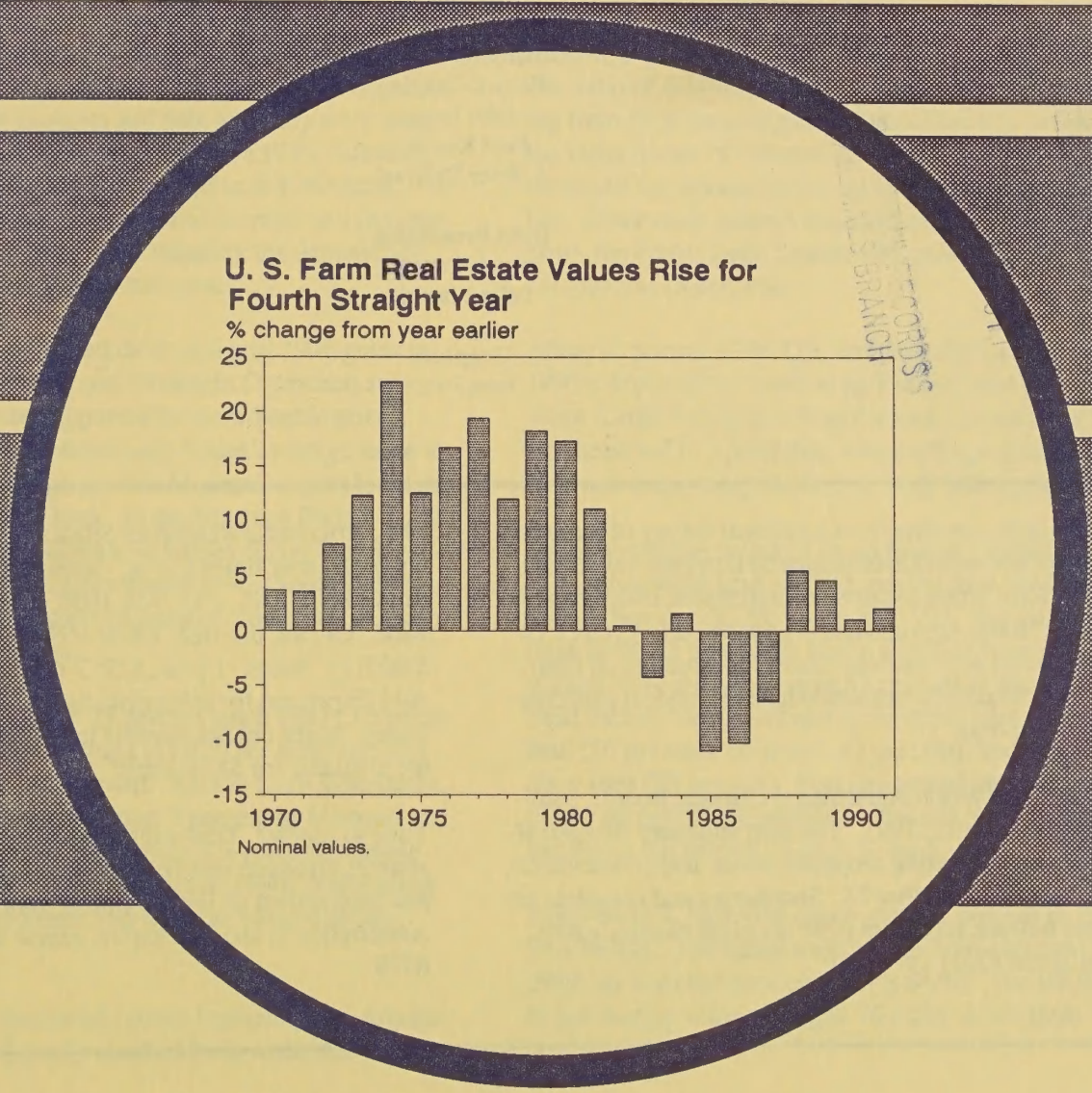
United States
Department of
Agriculture

Economic
Research
Service

AR-22
June 1991

Agricultural Resources

Situation and Outlook Report



Agricultural Resources: Agricultural Land Values and Markets Situation and Outlook Report. Resources and Technology Division, Economic Research Service, U.S. Department of Agriculture, Washington, D.C. 20005-4788, June 1991, AR-22.

Contents

Situation Coordinator and Principal Contributor
Roger W. Hexem
(202) 219-0423

Special Articles Coordinator
Fred Kuchler

Other Contributors
Patrick Canning
John Jones
Fred Kuchler
J. Peter DeBraal

Data Processing
Patrick Canning
Felix Llacuna

Graphics
John Jones

This report draws on data from a national survey of farmers and ranchers who provide estimates of farmland values and cash rents. Real estate brokers and appraisers, officials of the Farmers Home Administration and the Farm Credit System, and farmers and ranchers furnish information on farm sales. USDA gratefully acknowledges respondent participation in both surveys.

Approved by the World Agricultural Outlook Board. Summary released June 21, 1991. The next summary of *Agricultural Resources*, featuring cropland, water, and conservation, is scheduled for September 23. Summaries and complete situation and outlook reports may be accessed electronically. For details, call (202) 447-5505.

The Agricultural Resources Situation and Outlook Report is published four times a year. Subscriptions are available from ERS-NASS, P.O. Box 1608, Rockville, MD 20849-1608. Or call, toll free, 1-800-999-6779 (weekdays, 8:30-5:00 ET). Rates: 1 year, $12: 2 years, $23: 3 years, $33. Add 25 percent for subscriptions mailed outside the United States. Make checks payable to ERS-NASS. Single copies are available for $8.00 each.

Time to renew? Your subscription to *Agricultural Resources Situation and Outlook Report* expires in the month and year shown on the top line of your address label. If your subscription is about to expire, renew today. Call 1-800-999-6779.

Summary

The per acre value of U.S. farm real estate is expected to increase 1 to 3 percent in 1991, compared with last year's 2-percent gain. The forecast reflects expectations of lower net farm income, slightly lower interest rates on farm real estate loans, and inflation at the 1990 rate.

U.S. farm real estate values rose 2 percent in 1990 to an average $682 per acre. This, on top of increases in the preceding 3 years, raised the January 1, 1991, average 14 percent above the 1987 low. However, the current average remains 17 percent below the record $823 in 1982. Compared with a year earlier, January 1991 values rose in six regions, remained unchanged in one, and declined in three.

With inflation, as measured by the GNP deflator, averaging just over 4 percent during calendar year 1990, the inflation-adjusted per acre value of U.S. farm real estate fell 2 percent from January 1990. Recent inflation rates around 4 percent have offset gains in nominal values, thereby preventing a sustained recovery of real values.

Higher farm real estate values in 1990 were supported by several factors. Record crop and livestock receipts contributed to record U.S. net farm income, while net cash income nearly tied the 1988 record. Farmers' financial positions improved as U.S. farm debt continued the decline that began in 1984. Ratios of debt to assets and debt to equity were lower in 1990, extending a downward trend since 1985. Interest rates on farm real estate loans remained near 1989 rates. But, the economic recession dampened investor activity, particularly near urban areas, in turn reducing the demand for farm real estate for nonagricultural uses.

Farm real estate values posted their strongest 1990 gains in the Lake States (8 percent) and Mountain (7 percent) regions, where they were supported by record cattle prices. Recent gains have restored the Lake States' average value to 73 percent of its 1981 high and the Mountain region's value to 88 percent of its 1984 high. In the Northern Plains, the 9-percent average annual increase in values during the preceding 3 years tapered off to 3 percent in 1990. South Dakota (7 percent) and North Dakota (8 percent) continued to record substantially higher values.

Corn Belt values have risen 25 percent since 1987 (3 percent in 1990), but the current average ($1,129 per acre) remains 36 percent below the 1981 record. Among Corn Belt States, increases during 1990 ranged from 1 percent in Missouri and Ohio to 5 percent in Iowa. California's 5-percent increase led the Pacific region's 4-percent gain in 1990. Values rose 2 percent in the Delta States and were unchanged in the Southeast.

Lower values in the Northeast (down 1 percent) and Appalachia (down 5 percent) partly resulted from weakened economies and reduced investor demand for farmland for nonagricultural uses. The 3-percent drop in the Southern Plains continued a decline that began in 1986. Texas values fell 3 percent in 1990 and Oklahoma values declined 2 percent.

Cash rents for farms and cropland are expected to rise in the Lake States and Delta States in 1991. In other regions, expected changes in rents show no consistent pattern. Similar or higher pasture rents are expected in the Northern Plains in 1991, while comparable to lower rents are anticipated in Appalachia. Expected changes in pasture rents elsewhere are mixed.

Voluntary and estate sales accounted for 71 percent of reported farm sales in late 1990. About 9 percent resulted from foreclosure, bankruptcy, and condemnation sales and transfers. Family transfers and other sales accounted for the remainder. Owner-operators participated in 59 percent of reported purchases in late 1990, involving 57 percent of the acres sold, and 62 percent of the total value of sales. Nonfarmers accounted for 27 percent of the purchases, representing 28 percent of both the acres sold and total value of sales. Highest activity by nonfarmers came in the Northeast, Appalachia, and Delta States.

Sixty-four percent of the reported sales involved financing. The ratio of debt to purchase price averaged 74 percent, ranging from 69 percent in the Northern Plains to 84 percent in the Delta States. Commercial banks provided 32 percent of the credit for reported sales, up from 28 percent a year earlier. Other main sources included seller financing (23 percent), the Farm Credit System (26 percent), and insurance companies (13 percent).

About 93 percent of the U.S. farmland reported sold in late 1990 is expected to remain in agricultural uses over the next 5 years. Largest shifts to nonagricultural uses are expected in the Northeast and in Appalachia, where nonagricultural uses for farm real estate compete more strongly with agricultural use.

Foreign interests acquired an additional 1.6 million acres of U.S. agricultural land in 1990, raising total holdings to 14.45 million acres as of December 31, 1990. But, U.S. corporations in which foreigners held a significant interest or substantial control owned about 62 percent of the acreage. Principal uses of foreign-owned agricultural land included forest land (50 percent), cropland (17 percent), and pasture and other uses (33 percent). Foreign-owned land comprised just over 1 percent of all privately owned U.S. agricultural land and about 0.6 percent of all U.S. land.

Taxes on U.S. farm real estate rose 2.7 percent in 1989 to $4.4 billion. The nationwide tax per acre averaged $5.06 in 1989, up from the previous year's $4.92. The tax per $100 of full market value averaged 76 cents, down from 77 cents in 1988.

Outlook

USDA forecasts a 1- to 3-percent increase in the per acre value of U.S. farm real estate in 1991, a range encompassing the 2-percent rise recorded in 1990. Analysts developed the forecast from a national forecasting model that incorporated expectations of lower net farm income in 1991, slightly lower interest rates, and inflation at the 1990 rate. The model also included historical farm real estate values. If the forecast is realized, the 1991 gain would represent the fifth straight annual increase, bringing the average value to 85 percent of the 1982 record high.

Real (inflation-adjusted) farm real estate values, however, will likely average lower in 1991, within a forecast range of no change to 2 percent lower. With recent inflation rates around 4 percent offsetting gains in nominal U.S. farm real estate values, a sustained recovery of real values has not yet occurred.

Slightly lower interest rates in 1991 and inflation similar to a year earlier should have little effect on finance costs for purchasing farm real estate and for operating expenses. Investors often consider farm real estate as a hedge against inflation. In recent years, however, economic returns to farm investments have barely kept pace with inflation. Returns to equity in 1991 are forecast at 3 to 4 percent, near last year's 4 percent and the preceding 4-year average of 4 percent. Inflation, as measured by the GNP deflator, averaged 3.7 percent during the past 4 years.

Analysts forecast that 1991 net farm income (the net value of the current year's production) will be down 4 to 14 percent from the 1990 record. Lower farm receipts—owing to reduced receipts from livestock—and higher cash expenses are expected to reduce net farm income. Net cash income (the net value of the current year's sales) is also forecast to be down from 1990's near-record.

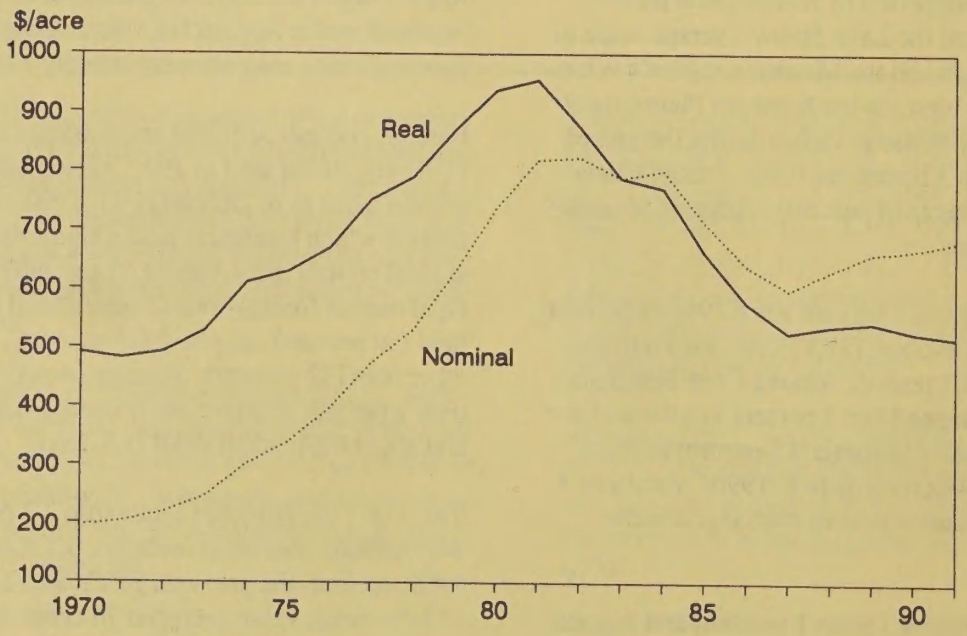
Investors look to improved export markets for agricultural commodities as the most likely source of significant increases in U.S. commodity prices and in economic returns to farm real estate. The value of U.S. exports in fiscal 1991 is forecast at 8 percent below a year earlier.

Operators' financial positions have strengthened in recent years. Total farm debt has steadily declined since 1983, but may level off in 1991. Ratios of debt to equity have fallen since 1985. The 1991 ratio is expected to be near or slightly below last year's.

Other sources reinforce the forecast 1- to 3-percent increase in U.S. farm real estate values. A national panel of rural appraisers surveyed for the Economic Research Service (ERS) in April 1991, expected a 1.9-percent increase in U.S. average farmland values during April 1991-92. Half the panel expected higher values, 40 percent unchanged values, and 10 percent lower values. The expected year-ahead increase is appreciably stronger than the 0.4-percent rise the panel forecast earlier for January 1991-92. At that time, only 26 percent expected higher values, while 25 percent anticipated lower values.

Figure 1

Average Real and Nominal Values of U. S. Farm Real Estate



Value of U.S. Farm Real Estate 2 Percent Higher

The per acre value of U.S. farm real estate averaged 2 percent higher during 1990, marking the fourth consecutive increase since the mid-1980's downturn in values ended in 1987. On January 1, 1991, the value of farmland and buildings averaged $682 per acre, 14 percent above the 1987 low, but still 17 percent below the record $823 in 1982 (table 1).

Operators were in a stronger financial position in 1990 that enabled them to bid up farm real estate values. Record crop and livestock receipts helped raise U.S. net cash income to a near record and net farm income to an alltime high. At the same time, U.S. farm debt edged lower, extending a decline that began in 1984. Ratios of debt-to-equity and debt-to-net cash income continued downward in 1990. Interest rates on farm real estate loans remained close to 1989 levels.

Farmland values represent investors' discounted stream of expected future incomes. The modest gain in average U.S. value in 1990, despite record income and stable interest rates, suggests that investors may have correctly anticipated the higher 1990 incomes and incorporated them into their prior-1990 bids for farmland. On the other hand, the tempered increase in 1990 may reflect investors' expectations of lower farm incomes beyond 1990.

The economic recession dampened investor activity, particularly near urban areas, which, in turn, reduced the demand for farm real estate for nonagricultural uses. This put downward pressure on farm real estate prices. Investors may have been generally more cautious because of the uncertain timing of the economy's recovery. Also, many are likely recalling the rapid rise in farm real estate values in the 1970's and early 1980's, followed by sharply lower values in the mid-1980's.

Regional factors affecting farm real estate values underlie these national indicators of economic well-being. Values in predominately agricultural regions are tied more closely to farm income levels. In other regions, such as the Northeast, Appalachia, and the Southeast, demand for agricultural uses competes more strongly with demand for urban, recreational, and rural housing. Demand for nonagricultural uses changes with fluctuations in regional and national economic activity and with population shifts.

On January 1, 1991, the value of farmland and buildings for the 48 contiguous States totaled $672 billion, 2 percent above a year earlier (app. table 1). Because the acreage in farms and ranches does not change much from year to year, State and regional percent changes in total value closely parallel percent changes in per acre values.

The average value per farm/ranch across the 48 contiguous States rose 2 percent in 1990 to $314,427 as of January 1, 1991 (app. table 2). The Mountain region recorded the highest average values ($585,561), primarily because of its large-scale operations that average 2,042 acres. But, because the region comprises a large proportion of relatively low-valued grazing land, the per acre value of farm real estate ($287) was lowest of all regions. State average values for operations ranged from Utah's $344,992 to Arizona's $1.32 million. Not only did average size of operation differ widely between Utah's 856 acres and Arizona's 4,615 acres, but so did per acre values, averaging $403 for Utah and $285 for Arizona.

Lowest average values occurred in Appalachia ($166,539), largely because of small operations, averaging 157 acres. Appalachia's average $1,060 per acre, however, represents one of the highest regional values.

Building values totaled $123.6 billion as of January 1, 1991 (table 4), and comprised just over 18 percent of the total value of farmland and buildings. Building values as a proportion of total farm real estate value ranked highest in the Northeast, Lake States, and Appalachia regions, accounting for 27 percent of total value. Relatively small operations in the Northeast (169 acres) and in Appalachia (157 acres) tend to make building values a large component of total value. Farm operations in the Lake States averaged 262 acres, but the concentration of dairying and related buildings helped account for the high proportion of building value.

Building values represented the smallest proportions in the Northern Plains (13 percent), Southern Plains (15 percent), and the Mountain region (14 percent). The larger scale of farms and ranches in these regions, with emphasis on wheat production and cow-calf operations, means buildings account for a relatively smaller share of total value.

Lake States and Mountain Regions Lead Increases

Recent gains in Lake States' farm real estate values and an 8-percent increase in 1990 brought the January 1, 1991, estimate of $906 per acre to 28 percent above the 1987 trough value (figure 3). However, the 1991 value remains 27 percent below the 1981 peak. Record cattle and hog prices in 1990 and high milk prices contributed to the region's 10-percent increase in cash receipts from livestock and products. This, together with higher crop receipts, led to higher net cash income in 1990. Higher values for nonirrigated cropland in 1990 helped raise farm real estate values from 6 percent in Wisconsin to 8 percent in Michigan and Minnesota. Pasture values also rose, as did farm building values.

Higher real estate values in the Mountain region during the past 3 years (7 percent in 1990) have brought the average value to 88 percent of its 1982 record high. Expanded livestock receipts in 1990 were more than offset by lower crop receipts (partly resulting from sharply lower wheat prices), and net cash income declined. Changes in farm real estate values ranged from no change in Idaho to 17 percent higher

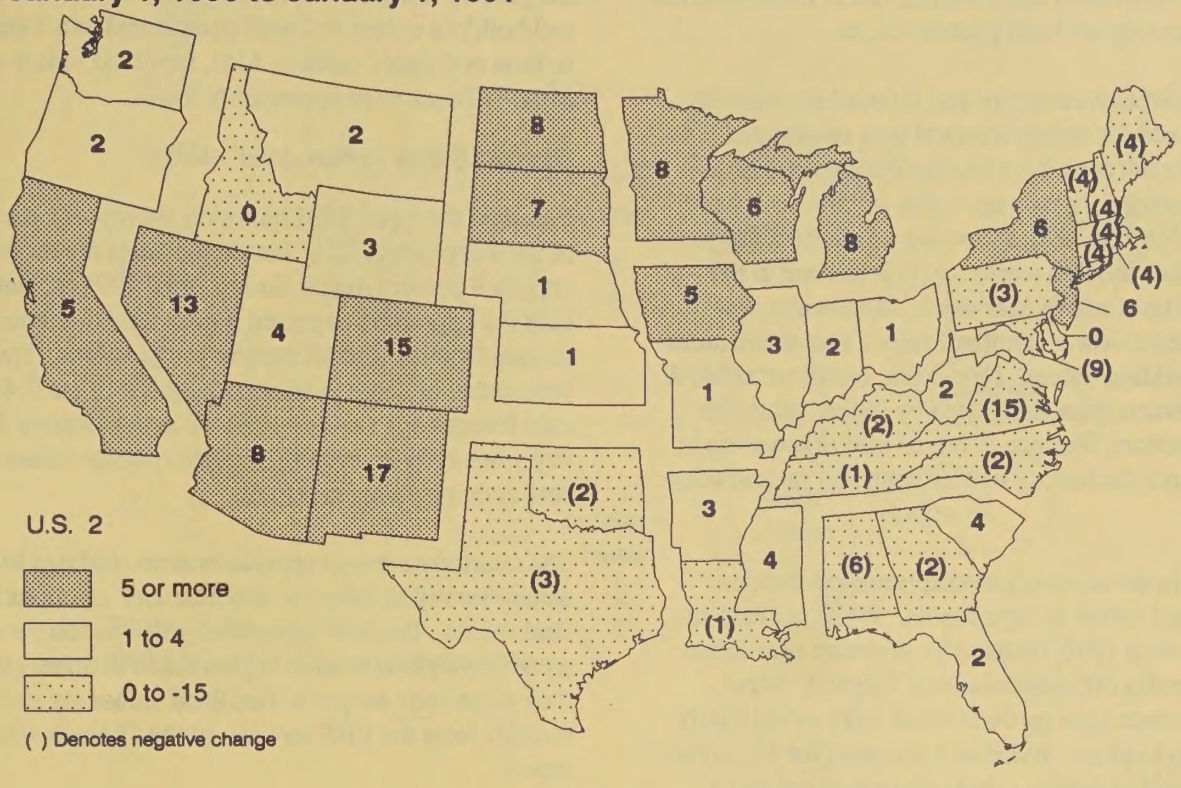
Table 1.--Average per acre value of farmland and buildings, by State, 1984-91 1/

State	As of April 1		As of February 1				As of January 1		Percent change
	1984	1985	1986	1987	1988	1989	1990	1991	1990-91
	Dollars								Percent
Northeast:	1,391	1,346	1,340	1,491	1,586	1,763	1,722	1,699	-1
Maine	713	774	854	885	962	1,019	1,019	978	-4
New Hampshire	1,253	1,439	1,682	1,847	2,112	2,237	2,237	2,148	-4
Vermont	862	947	1,060	1,114	1,124	1,190	1,190	1,142	-4
Massachusetts	2,083	2,377	2,761	3,012	3,553	3,763	3,763	3,612	-4
Rhode Island	2,770	2,990	3,284	3,389	4,748	5,028	5,028	4,827	-4
Connecticut	2,723	3,005	3,372	3,557	4,171	4,417	4,417	4,240	-4
New York	848	820	843	960	993	1,024	974	1,031	6
New Jersey	2,959	2,951	2,997	3,729	3,969	4,543	4,634	4,912	6
Pennsylvania	1,596	1,427	1,332	1,540	1,579	1,874	1,807	1,757	-3
Delaware	1,840	1,596	1,684	1,677	1,765	2,058	2,259	2,248	0
Maryland	2,236	2,197	2,023	2,009	2,261	2,462	2,420	2,196	-9
Lake States:	1,147	952	797	707	788	819	841	906	8
Michigan	1,255	1,108	1,012	924	971	983	1,005	1,085	8
Wisconsin	1,104	944	836	777	826	846	803	853	6
Minnesota	1,131	898	694	587	700	745	805	873	8
Corn Belt:	1,449	1,108	972	900	1,003	1,100	1,096	1,129	3
Ohio	1,500	1,215	1,136	1,097	1,199	1,262	1,204	1,217	1
Indiana	1,647	1,344	1,167	1,061	1,158	1,244	1,244	1,275	2
Illinois	1,845	1,381	1,232	1,149	1,262	1,383	1,389	1,433	3
Iowa	1,518	1,091	873	786	947	1,101	1,102	1,157	5
Missouri	875	689	648	604	640	673	679	689	1
Northern Plains:	518	412	360	331	368	398	425	439	3
North Dakota	447	373	334	303	319	326	340	368	8
South Dakota	363	289	267	238	269	291	328	351	7
Nebraska	645	485	416	400	457	523	550	556	1
Kansas	597	488	415	373	413	435	462	467	1
Appalachia:	1,107	1,035	1,025	1,004	1,037	1,077	1,111	1,060	-5
Virginia	1,125	1,112	1,179	1,154	1,198	1,333	1,516	1,295	-15
West Virginia	698	607	616	633	682	702	613	625	2
North Carolina	1,429	1,331	1,254	1,259	1,263	1,317	1,263	1,243	-2
Kentucky	1,034	955	941	878	896	911	981	962	-2
Tennessee	1,024	944	935	936	1,001	1,002	996	988	-1
Southeast:	1,105	1,068	1,038	1,055	1,130	1,194	1,253	1,254	0
South Carolina	926	898	870	792	871	939	909	948	4
Georgia	921	886	853	889	920	998	1,012	995	-2
Florida	1,645	1,599	1,537	1,605	1,790	1,887	2,085	2,133	2
Alabama	824	797	803	786	800	822	839	791	-6
Delta States:	1,074	1,012	880	757	781	797	782	797	2
Mississippi	950	855	778	685	697	713	728	754	4
Arkansas	964	907	779	724	761	778	750	770	3
Louisiana	1,430	1,407	1,191	921	940	954	915	905	-1
Southern Plains:	632	675	579	532	531	516	495	482	-3
Oklahoma	718	597	520	475	480	521	497	486	-2
Texas	612	694	594	546	544	515	495	481	-3
Mountain:	327	300	267	257	257	260	267	287	7
Montana	276	243	233	200	205	209	238	243	2
Idaho	808	739	631	552	572	595	661	659	0
Wyoming	199	181	159	157	147	142	149	153	3
Colorado	469	437	360	368	369	367	358	410	15
New Mexico	194	185	161	156	180	191	196	230	17
Arizona	311	295	271	299	279	274	263	285	8
Utah	570	513	476	451	425	421	389	403	4
Nevada	262	244	219	240	227	234	194	219	13
Pacific:	1,399	1,293	1,201	1,084	1,089	1,129	1,163	1,210	4
Washington	972	943	840	756	739	757	779	798	2
Oregon	719	615	570	541	542	535	571	583	2
California	1,981	1,841	1,730	1,554	1,575	1,657	1,704	1,787	5
48 States	801	713	640	599	632	661	668	682	2

1/ Nominal dollars. Values for 1989 and 1990 revised following 1991 adoption of a new procedure for estimating farm building values.

Figure 2

Percent Change in Farm Real Estate Value Per Acre
January 1, 1990 to January 1, 1991



in New Mexico. Higher values for pasture, which accounts for 90 percent of New Mexico's land in farms and ranches, primarily supported the State's gain in farm real estate value. Colorado's 15-percent increase came from sharply higher values for nonirrigated cropland and higher values for pasture. Farm building values also rose in both States. Declines in pasture and building values in Idaho offset gains in irrigated cropland values, resulting in no change in the combined farm real estate value.

In the Corn Belt, net cash income rose sharply in 1990, but had only a moderate impact on farm real estate values, which gained 3 percent. Receipts from livestock were particularly higher. Since farm real estate values turned around in 1988, Corn Belt values have increased 25 percent, but are still 36 percent below the region's 1981 high.

State increases in the Corn Belt ranged from 1 percent in Ohio and Missouri to 5 percent in Iowa. Higher cropland values were reported in most of Iowa, while pasture values rose in southern areas. Iowa's cash receipts from livestock were substantially higher in 1990. Lower woodland values in Missouri and reduced building values in both Missouri and Ohio held State gains in farm real estate values to 1 percent.

Farm real estate value increases in North Dakota (8 percent) and South Dakota (7 percent) during 1990 continued to lead the Northern Plains' recovery in values. With the region's 3-percent gain in 1990, the average value has risen 33 percent since turning around in 1988. Higher values for all farmland uses in North and South Dakota, particularly pasture values, led to each State's strong increase in 1990. Building values also rose.

While the value of farm real estate in the Delta States gained 2 percent in 1990, the average value ($797 per acre) was identical to the 1989 value. On a regional basis, values in the Delta States have been moving without trend since 1987. Net cash farm income was up in 1990, largely due to higher cash receipts from crops. Mississippi's 4-percent gain in farm real estate value stemmed from higher values for all farmland uses, which were slightly offset by lower building values. Lower cropland values counterbalanced higher pasture values in Louisiana, and combined farmland values showed no change. Lower building values, however, pulled down the overall change in farm real estate value by 1 percent.

The 4-percent gain in the Pacific region's average value of farm real estate in 1990 brought values to 86 percent of the 1984 record high. Values have fluctuated without trend since 1986. California's 5-percent gain in 1990 reflects a 6-percent increase in farmland values offset by slightly lower building values. In Oregon and Washington, moderately higher values for all farmland uses but lower building values held each State's increase in farm real estate values to 2 percent.

Rising Southeast values since 1987 leveled off in 1990 with the January 1, 1991, average of $1,254 nearly identical to a year earlier. State changes in farm real estate values ranged from a 6-percent drop in Alabama to a 4-percent gain in

South Carolina. Values for cropland and woodland in Alabama were down in 1990, as were building values. In South Carolina, lower woodland and building values moderated the impact of higher cropland and pasture values.

A weakened Northeast economy that reduced investor demand for farmland for nonagricultural uses neutralized the impact of higher net cash farm income during the past 2 years. Consequently, the average value of farm real estate was down 1 percent in 1990, following a 2-percent decline in 1989. Declines in 1990 were most pronounced in the New England States and in Maryland. Maryland's downturn was partly linked to lower farmland values near urban areas and to lower building values. New York, on the other hand, recorded a 6-percent gain, supported by higher values for cropland and pasture. Farmland values near urban areas in New York did not decline, as in Maryland and several other States.

The downturn in the economy also appears to have depressed farmland values in Appalachia. While net cash income was higher in 1990, demand by investors near urban areas was generally off, particularly in Virginia. West Virginia's 2-percent gain partly resulted from substantially higher woodland values. Woodland accounts for 42 percent of the State's land in farms. Lower real estate values in North Carolina, Kentucky, and Tennessee generally resulted from lower building values.

Farm real estate values in the Southern Plains averaged 3 percent lower in 1990, continuing a downward trend since 1985. Net cash income was down from a year earlier as higher cash receipts were offset by lower direct payments and higher cash expenses. Lower nonirrigated cropland values in Oklahoma and lower farm building values resulted in a 2-percent decline in farm real estate values. Lower pasture and building values in Texas contributed to a 3-percent drop in farm real estate values. Also, farmland values near urban areas in Texas were appreciably lower.

Recent Update in Farmland Values

Based on the April 1991 quarterly survey of a national panel of rural appraisers, U.S. farmland values are expected to average 1.9 percent higher during April 1991-92 (table 2). Half the appraisers expected higher values, 40 percent unchanged values, and 10 percent lower values. The expected year-ahead increase is substantially above the 0.4-percent gain forecast for January 1991-92 in the January 1991 survey when only 26 percent expected higher values and 25 percent anticipated lower values.

The quarterly surveys provide interim readings to USDA's annual survey of farmers' and ranchers' opinions of farmland values. Because appraisers' information for specific areas is weighted to form regional and national estimates, their expected changes in farmland values are developed differently from the ERS forecast in the Outlook section of this report.

Strongest year-ahead gains are expected in the North Central region (2.1 percent) and the West (2 percent). See figure 5. However, both expected gains are slightly below the 2.3-percent and 2.6-percent increases reported for the preceding 12 months. Appraisers expect a 1.6-percent increase in farmland values in the South (1.3 percent in the year past) and a

Trend in Real Values Levels Off

Increases in real farmland (land and buildings) values accelerated in 1974, following sharply higher returns to assets in 1972 and 1973 (figure 4). The increased returns to assets partly stemmed from higher agricultural exports. Higher inflation, which pushed real interest rates lower in 1973 and 1974, and the higher returns increased investors' incentives to bid up farmland prices.

Even though real returns fell during 1974-77 and real interest rates rose, farmland values continued higher. Investors may have expected expanding export markets or other factors to continue raising returns to farmland.

Real farmland values peaked in 1981, as returns varied but real interest rates remained relatively low. Values then began falling in 1982, as interest rates rose sharply. Falling farmland values reduced owners' equity, which together with rising interest rates, created financial stress for many operations. The subsequent forced sales for some who could not meet mortgage payments placed additional land on the market, further depressing prices.

Beginning in 1987, however, lower interest rates and more stable returns led to a general improvement in operators' financial positions. But, real farmland values have remained essentially flat since 1987, even though nominal values trended higher.

When nominal farmland values are adjusted by the GNP deflator, which averaged just over 4 percent during 1990, the real value of U.S. farm real estate on January 1, 1991, fell 2 percent below a year earlier. The 1991 real value remains 46 percent below the inflation-adjusted peak in 1981 and is close to the 1973 real value. Nominal farmland values, on the other hand, nearly tripled during 1973-91.

Figure 3

Percent Change in Farm Real Estate Value Per Acre, 1990-91 and Trough Year to 1991

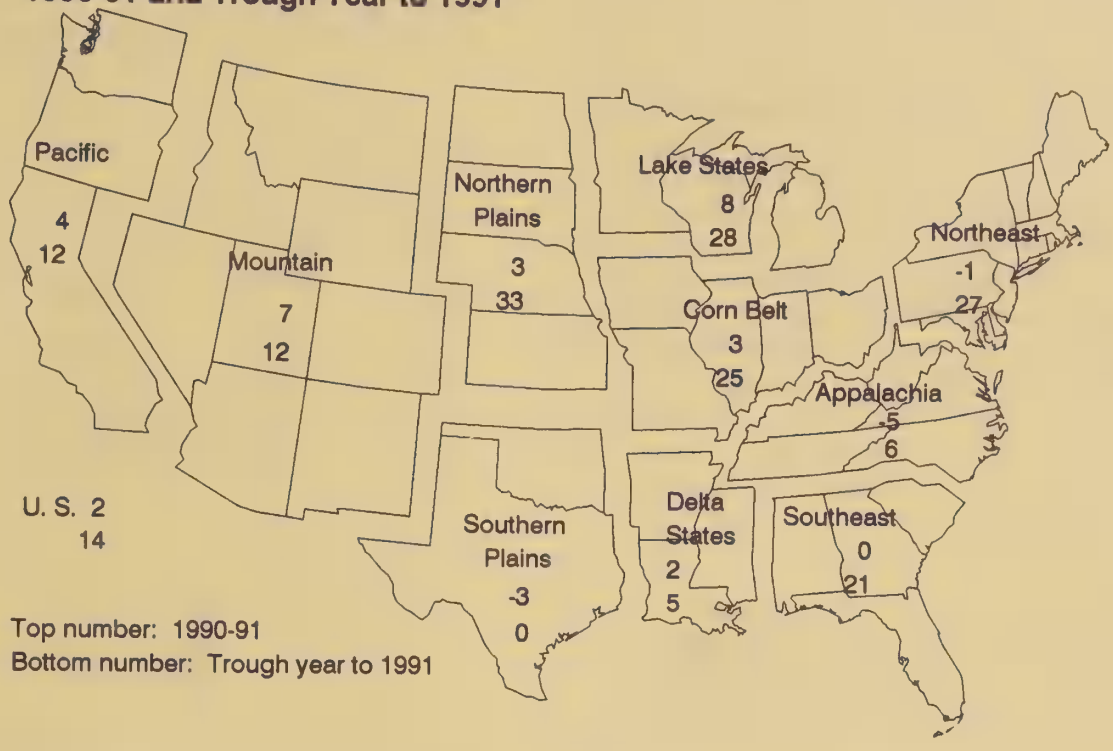
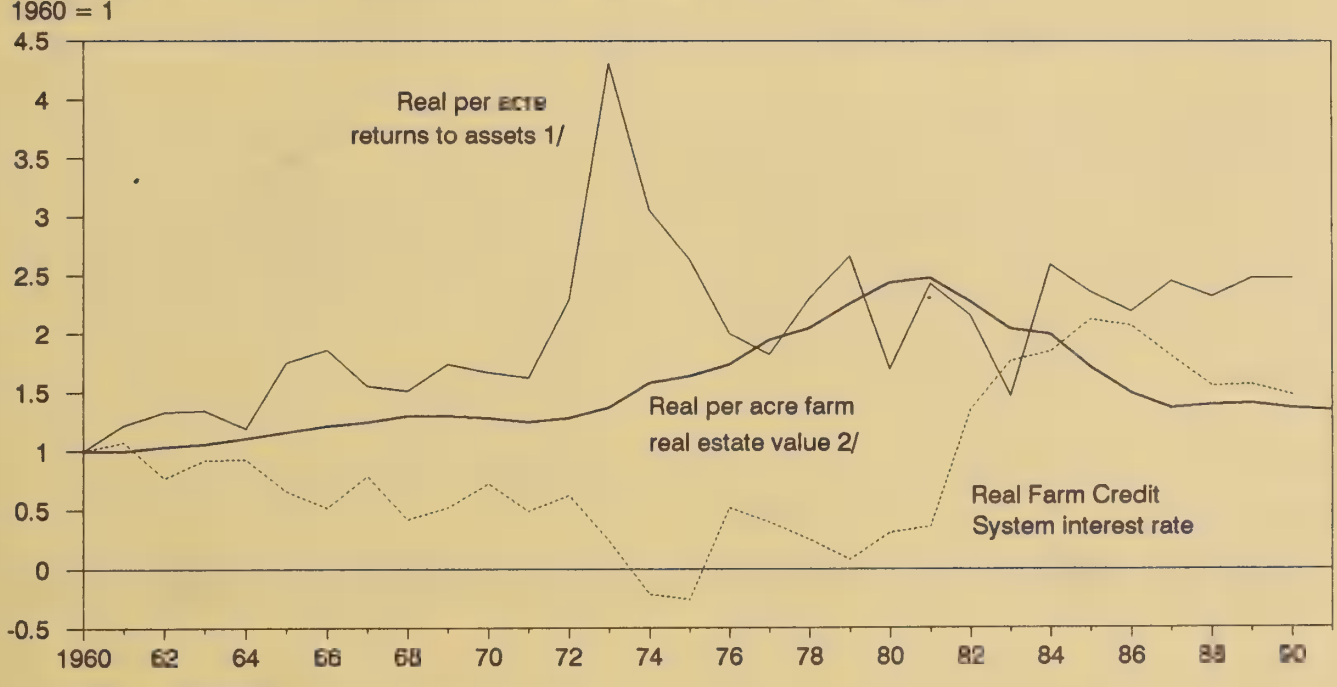


Figure 4

Real (Inflation-Adjusted) U. S. Farm Real Estate Values Leveling Off



1/ Preliminary for 1990.

2/ Land and Buildings.

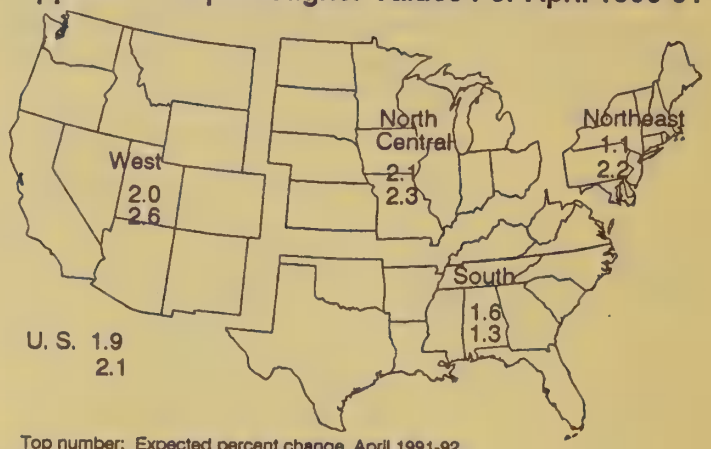
1.1-percent increase in the Northeast (2.2 percent a year earlier).

Looking at short-term changes, appraisers expected a 0.1-percent increase in U.S. average farmland values during April-June 1991 (table 3). About 78 percent of the appraisers expect stable values during the second quarter. The expected gain represents a turnaround from the 0.1-percent decrease during the preceding 3 months.

Appraisers in the Northeast, South, and West all expected 0.3-percent gains during the second quarter. North Central appraisers looked for a 0.1-percent decline, a moderation of the 0.8-percent fall reported for the preceding 3 months.

Figure 5

Appraisers Expect Higher Values For April 1990-91



Top number: Expected percent change, April 1991-92
Bottom number: Reported percent change, April 1990-91

Table 2.--Strongest year-ahead increases expected in the North Central and West regions 1/

	Percent expecting values during April 1991 to April 1992 to be:				Percent reporting values during April 1990 to April 1991 were:			
	Higher	Same	Lower	Change in value	Higher	Same	Lower	Change in value
				Percent				
Northeast	44	48	8	1.1	84	13	3	2.2
North Central	46	47	7	2.1	58	23	19	2.3
South	55	33	12	1.6	65	20	15	1.3
West	52	38	10	2.0	75	15	10	2.6
United States	50	40	10	1.9	66	19	15	2.1

1/ Based on 449 responses from the April 1991 survey of a national panel of rural appraisers.

Table 3.--Quarterly changes show slightly higher values 1/

	Percent expecting values during April through June, 1991 to be:				Percent reporting values during January through March, 1991 were:			
	Higher	Same	Lower	Change in value	Higher	Same	Lower	Change in value
				Percent				
Northeast	14	86	0	0.3	12	86	2	0.3
North Central	11	73	16	-0.1	9	74	17	-0.8
South	21	76	3	0.3	12	80	8	0.3
West	12	85	3	0.3	14	77	9	0.1
United States	14	78	8	0.1	11	77	12	-0.1

1/ Based on 449 responses from the April 1991 survey of a national panel of rural appraisers.

Cash Rents in 1991

Rented land accounted for 39 percent of all U.S. farmland operated in 1990, according to USDA's 1990 Farm Costs and Returns Survey. (This count excludes land leased on an animal-unit-month basis). Leasing was most prevalent in the Corn Belt, Northern Plains, Southern Plains, Delta States, and Pacific regions where 40 to 47 percent of all land operated was leased. Proportions in other regions ranged from 27 percent in the Northeast and Southeast to 35 percent in Appalachia.

Cash renting predominated in 1990. About 65 percent of U.S. rented land was rented for cash, 31 percent for shares, and 4 percent rent-free. Cash-rented land accounted for 70 to 80 percent of all rented land in the Northeast, Lake States, Southern Plains, Southeast, and Mountain regions. Between 60 and 70 percent was cash rented in the Northern Plains, Appalachia, and the Pacific region. Tenants cash rented least often in the Corn Belt (42 percent), where 56 percent was rented for shares, and the Delta States (50 percent), where 40 percent was rented for shares.

Cash rents are indicators of gross economic returns to farmland. Farmland values reflect expected future returns. Rents may vary from year to year as market and growing conditions change. Farmland values incorporate a longer time span of past and expected returns (rents) to land. Consequently, annual changes in rent-to-value ratios may be more volatile than changes in farmland values. Some year-to-year changes also result from sampling and other variations in the annual surveys.

Conservation Reserve Program (CRP) enrollments remove cropland from production for 10 years. Because some CRP land was rented prior to enrollment, fewer acres may now be available for renting. Also, some participating in the CRP and annual acreage control programs may look for additional cropland. Such increased demand for cropland, together with less land in the rental market, would tend to push cash rents higher.

CRP enrollments of around 550,000 acres in fiscal 1991 bring total U.S. enrollments to just over 34.5 million acres. The Northern Plains accounts for 9.5 million (28 percent) of all CRP acres. Enrollments are also high in the Mountain region (6.5 million). The Southern Plains reports 5.1 million acres, mostly in Texas. Corn Belt enrollments rose to 4.9 million acres, with highest counts in Iowa and Missouri. Another sign-up is scheduled for July 1991.

Higher Farm Rents in Lake States and Delta States

Estimates of cash rent data for entire farms are generally limited to States east of the Plains regions. Renting entire farms is less common in other areas of the country.

Lake States' rents have been rising for several years and are expected to further increase in 1991 (table 6) Particularly higher rents are expected in Michigan, where the average rent is projected to rise from $43.80 in 1990 to $52.80 per acre this year. The rent-to-value ratio for Michigan (6.6 percent) also rose, but ratios for Wisconsin and Minnesota were similar to last year's.

Delta States tenants are also expected to pay higher rents, particularly in Louisiana. Rents there are expected to average $41.30, substantially above a year earlier but more in line with 1989.

Rents for most States in the Corn Belt, Northern Plains, Appalachian, and Southeast regions are expected to be stable to slightly higher in 1991. In Missouri, however, the $46.70 expected in 1991 is down from last year's $50.30.

Cropland Rents Also Higher in the Lake States and Delta States

Cash rents for cropland are expected to average 3 to 10 percent higher among the Lake States and 7 to 12 percent higher among the Delta States (table 7). For some States, for example, Michigan and Mississippi, higher rents in 1991 appear to represent rebounds from below-trend rates a year earlier.

Corn Belt rents in 1991 are expected to level off to near 1990 levels. Both rents and farmland values began falling in the early 1980's, with the drop in rents continuing through 1987. Farmland values began rising in 1988. Rents have recovered to within about 80 to 90 percent of earlier highs, ranging from 78 percent for Ohio to 89 percent for Missouri.

Lower rents are expected for many Plains and Western States, possibly due to lower wheat prices in 1990 and drought conditions in some areas. North and South Dakota were exceptions, however, where North Dakota's $28.70 per acre is similar to rates in the late 1980's. While South Dakota rents have increased since 1988 to a record $37.40 in 1991, rent-to-value ratios have steadily declined, as values of rented cropland rose proportionately more than cropland rents.

Pasture Rents Vary Within and Among Regions

Unchanged to higher pasture rents are expected for all States in the Northern Plains, while lower to unchanged rents are anticipated in Appalachia (table 8). Rents in other regions showed no consistent pattern between 1990 and 1991.

The 16-State average value for cattle grazing fees on privately owned nonirrigated land leased on an animal-unit-month basis was $10.86 in 1990, up from $10.06 a year earlier (table 9). Appreciably higher fees were paid in South Dakota, Nebraska, Idaho, and Colorado. Fees were down in Wyoming, New Mexico, Utah, and Washington.

Measuring Farmland and Farm Building Values

Real Estate Values Were Revised

In 1991, we revised our procedure for estimating farm real estate values. Because 1989 and 1990 estimates represent forecasts indexed from the 1988 Bureau of the Census bench mark values, 1989 and 1990 State and U.S. estimates were revised according to this procedure.

Newly available data show that some relations among economic variables can no longer be expected to hold. Farm building values have a stronger influence on farm real estate value than originally thought. Until 1990, we used Bureau of the Census farm real estate estimates as bench marks and our annual farmland value survey as bench mark movers for intercensal years. We assumed we could measure the annual percentage changes in the value of real estate with the annual change in farmland.

The Bureau of the Census estimates farm building values less frequently than real estate values, but the existing estimates reveal major changes in the components of farm real estate. When we compared the 1980 Bureau of the Census estimates of farm building values to the recently released 1989 value, we discovered building values had risen from 14 to 21 percent of the total real estate value.

We used this information to revise the procedure by which we make farm real estate estimates. The 1990 and 1991 farmland value surveys provided the 1990-91 percentage change in land values. We estimated percent changes in the building component of farm real estate value using secondary information. Thus, we derived our 1991 farm real estate estimate as the sum of movements of each of the two components.

Why Do Changes in Land and Building Values Diverge?

Changes in land and building values likely reflect different impacts from the same economic forces. At times, values may move in opposing directions and by different percentage amounts. However, analyses of historical data show that relative movements are systematic and predictable. That is, we can track movements in both components provided we can identify how one component—for example, land values—moves.

Land and building values likely equal the present discounted value of returns investors anticipate from asset ownership. So long as anticipated land and building income streams change by the same percentage amounts in response to economic forces, land and building prices will maintain their relative levels.

At times, anticipated income streams from land and buildings, and therefore values, are identically affected by economic forces. Some of the costs of owning land are identical to the costs of owning buildings. For example, loans for farm real estate typically cover land with the existing improvements, including buildings. Therefore, the interest rate implicitly is equal for both the land and buildings. In some areas, landowners pay ad valorem taxes on their real estate, again implying equal tax rates for land and buildings. Federal income tax rates also apply equally to income from land or buildings.

Although land and buildings share many factors affecting returns and ownership costs, there are two reasons to suspect that investors' anticipated income streams will not move together in percentage terms. The market value of these assets can move at different rates and possibly in opposing directions under some conditions. Two factors induce investors to revise their anticipated income streams by different amounts. First, building ownership costs (as a percentage of value) are generally larger than land ownership costs. Increases, for example, in anticipated inflation rates lower land ownership costs more than building ownership costs and the income streams move by different amounts. The second factor, the Federal tax code, reinforces the divergence in anticipated income streams created by changing inflation rates.

Annual costs of maintaining land and buildings differ. Costs for land are significantly less than for buildings. (Maintenance costs strictly for land do not include costs of installing and maintaining permanent land improvements such as terraces, drainage systems, fences, or irrigation.) Buildings do

physically wear out with use. Maintaining their productive capability requires some periodic repairs and maintenance. Thus, building ownership costs are likely to exceed land ownership costs as, for example, a percentage of value. To help keep this cost difference in mind, we refer below to land as if it were a non-depreciable asset (even though it is not an infinitely-lived asset) and to buildings as depreciable assets.

Depreciation and inflation together cause depreciable and non-depreciable asset prices to diverge. If potential investors anticipate an increase in the inflation rate, they are likely to revise their expectations of income from land and building ownership. Those revisions will cause the price of both land and buildings to rise, but not at the same rate. Most empirical studies of the effects of inflation on the cost of financing capital purchases indicate that, after accounting for Federal tax-deductible interest payments, the cost of financing increases less than the increase in inflation.

Asset owners benefit from inflation because it reduces ownership costs relative to asset values. Anticipated inflation can cause asset prices to rise at different rates because the farmland and building ownership costs are different. Because land ownership costs, as a percentage of land price, are generally less than building ownership costs, as a percentage of building price, an increase in inflation rates has a relatively larger cost-reducing impact on land values.

If investors see land costs falling relatively more than building costs, they will also expect the rate of return to be greater on land than on buildings. The differential rates of return should spur investment in land and diminish investment in buildings. In this case, land prices must rise relatively faster than building prices. Conversely, land prices will fall faster than building prices when inflationary expectations decline.

The Federal tax code also causes depreciable and non-depreciable asset prices to diverge when investors expect increasing inflation. The tax code allows a deduction for depreciation of farm buildings (excluding the non-business sections of owner-operator dwellings). Land, net of improvements, is not depreciable for tax purposes. When anticipated inflation rates rise, the tax code induces investors to revise downward their expectations of income from building ownership because the historic purchase price rather than the current replacement cost determines the size of deductions. The inflation-adjusted value of the deduction diminishes with increasing inflation.

Suppose investors seize every opportunity for profitable investment. Then, after-tax rates of return should be the same for all assets, regardless of the ability to deduct depreciation expenses. Increasing inflation means that the value of depreciation deductions diminish, so long as historic purchase prices determine deductions. Equivalently, building owners receive smaller benefits from ownership. Maintaining the rate-of-return equality in the face of reduced benefits from building ownership is possible only if land and building prices diverge.

What Was Done To Estimate Land and Building Values?

Empirically, we found a strong correlation between (anticipated) inflation rates (measured as a 3-year moving average of the GNP deflator) and the ratio of land to building value for the United States and the 10 farm production regions. The findings support the argument that inflation has different consequences for the expected net-of-taxes income streams from land and buildings. When the different income streams are discounted, impacts vary on imputed values for land and buildings. Those values move at different, but now predictable rates. We used the statistical relationship between inflation rates and the land-to-building value ratio to estimate building value changes. In summary, we used three pieces of information to estimate real estate values: the Bureau of the Census estimate of the value of farm real estate (the bench marks for land and for buildings), the year-to-year percentage change in farmland values (estimated from our annual land value survey), and the estimated land-to-building ratio (derived from the relation between inflation rates and the ratio). Thus, we applied two movers to the Census bench marks.

The two separate movers allow us to estimate separately land and building values. Further, because we use secondary information to estimate the ratio of land to building value (the GNP deflator), we can make estimates for earlier years. Tables 4 and 5 contain separate estimates for building and land values annually back to 1980. [Fred Kuchler and Patrick Canning]

Table 4.--Total value of farm buildings, by State, 1980-91 1/

State	As of February 1		As of April 1				As of February 1				As of January 1	
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
	Million dollars											
Northeast:	9,824	10,319	9,991	9,452	9,756	10,163	10,959	12,390	12,916	13,462	12,055	11,446
Maine	325	326	322	311	292	329	387	390	409	397	369	340
New Hampshire	185	186	184	176	181	222	266	281	316	301	274	253
Vermont	425	442	416	398	393	432	515	518	501	483	449	414
Massachusetts	392	389	388	371	385	461	579	632	708	688	640	589
Rhode Island	64	67	61	58	54	62	73	75	102	99	89	82
Connecticut	397	399	384	369	350	411	461	476	538	523	464	427
New York	2,192	2,354	2,402	2,305	2,377	2,448	2,731	3,148	3,220	3,097	2,733	2,780
New Jersey	700	683	675	609	545	569	593	725	730	772	722	735
Pennsylvania	3,658	3,796	3,595	3,478	3,694	3,675	3,748	4,490	4,587	5,194	4,581	4,284
Delaware	216	233	224	226	240	234	281	292	304	351	345	331
Maryland	1,270	1,445	1,339	1,151	1,244	1,319	1,325	1,363	1,504	1,557	1,388	1,211
Lake States:	13,298	14,965	14,454	13,774	14,467	14,222	13,792	13,144	14,808	14,834	13,816	14,159
Michigan	2,863	3,189	3,060	2,942	3,163	3,267	3,358	3,222	3,408	3,291	3,093	3,187
Wisconsin	5,391	5,935	5,672	5,449	5,665	5,629	5,688	5,573	6,024	5,911	5,144	5,209
Minnesota	5,044	5,841	5,723	5,383	5,640	5,326	4,747	4,348	5,376	5,632	5,579	5,762
Corn Belt:	24,470	25,742	23,393	21,450	22,725	21,122	22,234	22,358	25,849	27,540	24,725	24,061
Ohio	4,500	4,658	4,092	3,850	4,148	4,090	4,576	4,792	5,480	5,706	4,934	4,719
Indiana	4,246	4,538	4,001	3,608	3,998	3,947	4,116	4,041	4,672	4,937	4,441	4,323
Illinois	4,822	5,041	4,587	4,270	4,661	4,203	4,490	4,568	5,234	5,597	5,067	4,983
Iowa	6,753	7,073	6,557	5,902	5,712	4,912	4,634	4,503	5,584	6,307	5,722	5,659
Missouri	4,149	4,431	4,157	3,819	4,207	3,971	4,418	4,454	4,880	4,992	4,562	4,378
Northern Plains:	8,597	9,072	9,056	8,813	9,189	8,783	9,087	9,001	10,301	10,743	10,372	10,132
North Dakota	1,734	1,747	1,735	1,656	1,759	1,724	1,787	1,712	1,813	1,756	1,652	1,684
South Dakota	1,455	1,574	1,631	1,642	1,828	1,748	1,928	1,856	2,157	2,252	2,298	2,319
Nebraska	2,547	2,851	2,809	2,758	2,710	2,474	2,532	2,682	3,186	3,547	3,368	3,221
Kansas	2,862	2,900	2,882	2,758	2,892	2,837	2,841	2,751	3,145	3,188	3,054	2,908
Appalachia:	12,050	12,469	11,866	11,781	12,673	13,686	15,456	15,771	16,516	16,396	15,325	13,928
Virginia	2,201	2,312	2,202	2,271	2,389	2,715	3,245	3,307	3,510	3,743	3,859	3,135
West Virginia	696	726	715	633	645	616	739	804	878	871	696	675
North Carolina	3,033	3,101	2,836	2,833	3,237	3,450	3,710	3,834	3,812	3,701	3,161	2,966
Kentucky	3,066	3,152	3,145	3,164	3,343	3,628	4,162	4,136	4,318	4,243	4,163	3,893
Tennessee	3,054	3,178	2,968	2,881	3,059	3,276	3,599	3,690	3,998	3,838	3,446	3,259
Southeast:	6,837	7,359	6,980	6,706	6,942	7,764	8,734	9,313	10,127	10,287	9,505	8,975
South Carolina	1,043	1,090	1,041	966	949	1,057	1,175	1,129	1,274	1,334	1,153	1,144
Georgia	2,163	2,267	2,113	2,100	2,189	2,501	2,825	3,154	3,421	3,559	3,251	3,047
Florida	1,730	1,880	1,790	1,781	1,897	2,089	2,287	2,516	2,820	2,790	2,750	2,674
Alabama	1,901	2,122	2,036	1,859	1,906	2,116	2,448	2,514	2,612	2,605	2,351	2,110
Delta States:	5,396	6,285	6,204	5,622	6,114	6,743	6,886	6,398	6,759	6,681	5,877	5,685
Mississippi	1,764	2,189	2,063	1,866	2,091	2,206	2,354	2,221	2,296	2,257	2,044	2,009
Arkansas	2,142	2,393	2,468	2,175	2,268	2,510	2,522	2,550	2,777	2,748	2,383	2,315
Louisiana	1,490	1,704	1,673	1,581	1,755	2,027	2,011	1,627	1,685	1,676	1,449	1,360
Southern Plains:	7,939	8,528	9,546	9,690	11,278	14,280	14,621	14,759	15,405	14,880	12,885	11,856
Oklahoma	2,515	2,732	2,890	2,833	3,078	3,091	3,246	3,278	3,485	3,731	3,215	2,967
Texas	5,424	5,796	6,656	6,857	8,200	11,189	11,375	11,481	11,920	11,149	9,670	8,889
Mountain:	7,677	8,021	8,240	8,013	8,869	9,703	10,182	10,530	10,878	10,631	9,839	9,924
Montana	1,237	1,316	1,417	1,397	1,636	1,776	2,088	1,978	2,153	2,178	2,246	2,161
Idaho	1,438	1,521	1,600	1,565	1,628	1,757	1,747	1,606	1,700	1,704	1,702	1,607
Wyoming	534	586	621	635	706	780	822	896	880	820	788	761
Colorado	1,590	1,710	1,746	1,770	1,965	2,196	2,154	2,402	2,487	2,397	2,086	2,253
New Mexico	863	836	798	704	798	866	864	879	1,009	1,003	925	1,024
Arizona	820	824	815	759	840	929	977	1,118	1,029	937	814	831
Utah	924	941	941	894	955	1,005	1,091	1,107	1,071	1,023	853	833
Nevada	273	287	301	290	341	395	439	543	550	569	425	454
Pacific:	9,205	10,521	10,939	11,120	12,308	13,643	14,921	14,560	14,908	14,775	13,687	13,426
Washington	2,005	2,272	2,283	2,296	2,519	2,916	3,022	2,903	2,885	2,810	2,605	2,528
Oregon	1,898	2,080	2,119	2,157	2,383	2,470	2,706	2,787	2,865	2,733	2,632	2,532
California	5,303	6,169	6,536	6,666	7,406	8,256	9,192	8,871	9,158	9,232	8,450	8,366
48 States	105,293	113,281	110,668	106,421	114,321	120,109	126,873	128,223	138,467	140,229	128,086	123,592

1/ Values from 1981-90 were revised following 1991 adoption of a new procedure for estimating farm building values.

Table 5.--Average per acre value of farmland, by State, 1980-91 1/

State	As of Feb. 1		As of April 1				As of February 1				As of January 1		Percent change
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1990-91
	Dollars												Percent
Northeast:	919	1,000	1,005	1,001	1,036	968	923	1,010	1,077	1,225	1,236	1,238	0
Maine	393	438	476	511	522	553	595	616	680	745	764	743	-3
New Hampshire	664	736	795	848	917	1,029	1,171	1,285	1,493	1,635	1,678	1,632	-3
Vermont	477	529	571	608	631	677	737	775	795	870	893	868	-3
Massachusetts	1,063	1,197	1,312	1,417	1,525	1,700	1,922	2,096	2,512	2,751	2,822	2,745	-3
Rhode Island	1,668	1,807	1,910	1,993	2,028	2,138	2,286	2,359	3,357	3,675	3,771	3,669	-3
Connecticut	1,578	1,719	1,827	1,917	1,993	2,148	2,347	2,476	2,949	3,229	3,313	3,222	-3
New York	487	530	568	574	596	551	536	598	619	655	649	700	8
New Jersey	2,261	2,377	2,519	2,531	2,403	2,358	2,353	2,924	3,139	3,666	3,805	4,067	7
Pennsylvania	1,058	1,142	1,104	1,120	1,172	1,005	891	1,006	1,026	1,241	1,241	1,228	-1
Delaware	1,466	1,569	1,447	1,481	1,475	1,235	1,244	1,206	1,250	1,463	1,654	1,668	1
Maryland	1,776	2,014	1,889	1,695	1,775	1,689	1,493	1,452	1,621	1,785	1,803	1,658	-8
Lake States:	845	995	994	931	904	713	563	484	536	565	605	664	10
Michigan	860	1,009	1,010	965	975	819	709	631	658	678	719	790	10
Wisconsin	714	833	837	814	790	630	517	463	486	510	511	557	9
Minnesota	920	1,089	1,084	988	946	723	536	442	521	557	619	681	10
Corn Belt:	1,450	1,572	1,457	1,311	1,268	939	794	720	796	879	897	935	4
Ohio	1,452	1,542	1,373	1,262	1,238	957	846	790	848	899	890	916	3
Indiana	1,610	1,761	1,566	1,393	1,403	1,104	916	812	873	943	972	1,010	4
Illinois	1,874	2,013	1,863	1,688	1,683	1,235	1,075	989	1,079	1,187	1,211	1,258	4
Iowa	1,640	1,789	1,694	1,509	1,348	945	735	652	780	913	931	988	6
Missouri	769	848	812	734	740	560	504	458	480	509	529	545	3
Northern Plains:	438	485	497	480	467	364	310	281	311	338	367	383	4
North Dakota	363	394	413	399	404	331	290	261	274	283	299	326	9
South Dakota	260	294	312	311	322	250	224	196	220	240	276	299	8
Nebraska	582	669	671	643	588	433	362	343	389	448	479	488	2
Kansas	528	559	568	544	536	429	355	315	347	368	398	406	2
Appalachia:	791	862	860	859	865	771	724	690	707	746	796	774	-3
Virginia	803	882	871	893	878	826	830	790	812	917	1,082	943	-13
West Virginia	503	520	557	530	529	436	417	416	445	467	425	443	4
North Carolina	960	1,068	1,041	1,056	1,134	1,011	910	894	893	947	937	937	0
Kentucky	766	817	841	831	803	705	654	591	594	612	686	686	0
Tennessee	751	835	818	799	795	700	659	643	684	697	718	725	1
Southeast:	859	966	940	938	943	885	828	826	879	935	1,009	1,023	1
South Carolina	737	799	807	780	757	706	653	579	631	687	687	728	6
Georgia	752	815	775	776	759	701	641	646	657	716	752	751	0
Florida	1,252	1,423	1,381	1,436	1,492	1,426	1,345	1,390	1,545	1,638	1,833	1,888	3
Alabama	624	732	712	666	657	608	581	551	554	576	611	586	-4
Delta States:	835	993	983	899	922	842	706	593	605	622	625	645	3
Mississippi	698	884	839	763	803	698	610	524	527	543	571	599	5
Arkansas	788	909	944	837	823	749	619	562	585	603	596	621	4
Louisiana	1,109	1,285	1,250	1,193	1,253	1,200	984	746	755	770	754	754	0
Southern Plains:	426	461	520	518	566	590	492	443	438	426	417	410	-2
Oklahoma	541	601	639	614	624	503	422	376	374	408	400	396	-1
Texas	397	426	490	494	552	611	509	459	454	431	422	414	-2
Mountain:	254	276	292	282	291	261	225	214	213	216	226	246	9
Montana	215	230	248	236	249	214	199	167	170	173	201	207	3
Idaho	603	673	732	709	698	618	508	435	448	471	537	542	1
Wyoming	146	163	175	175	179	158	135	131	122	118	126	131	4
Colorado	343	386	401	403	412	373	297	297	295	295	295	342	16
New Mexico	167	174	178	163	176	166	142	137	157	168	175	207	18
Arizona	245	265	280	269	289	270	245	269	251	248	240	262	9
Utah	456	490	511	486	489	426	380	353	330	330	314	329	5
Nevada	218	230	234	216	224	200	170	179	165	170	146	168	15
Pacific:	902	1,089	1,185	1,191	1,215	1,088	975	863	861	902	951	1,002	5
Washington	613	738	783	792	815	762	651	574	559	581	616	640	4
Oregon	482	553	587	585	587	478	419	385	381	381	423	441	4
California	1,267	1,548	1,704	1,717	1,755	1,587	1,445	1,275	1,285	1,362	1,430	1,515	6
48 States	635	709	715	684	689	594	513	471	492	519	538	557	3

1/ Nominal dollars.

Table 6.--Farms rented for cash: Average gross cash rent per acre and rent as a percent of value, selected States, 1987-91

State	Rent per acre					Rent to value 1/				
	1987	1988	1989	1990	1991	1987	1988	1989	1990	1991
	Dollars					Percent				
Northeast:										
Maine	30.20	30.40	38.00	36.30	34.10	5.6	5.2	3.2	3.8	5.2
Vermont	*	30.10	28.30	31.30	23.30	*	2.7	3.3	2.6	2.3
New York	28.80	29.40	34.60	25.90	30.40	4.1	4.1	3.2	4.0	4.5
New Jersey	58.20	51.70	60.80	*	37.80	0.8	0.5	0.3	*	0.2
Pennsylvania	39.30	43.80	44.10	44.10	41.20	2.5	2.5	2.1	2.3	1.9
Delaware	59.50	55.20	52.30	60.60	59.70	3.1	2.9	2.1	4.2	3.2
Maryland	49.00	58.50	53.60	54.00	53.20	2.5	2.1	2.3	3.3	2.5
Lake States:										
Michigan	41.50	39.20	42.50	43.80	52.80	6.1	5.6	6.0	5.9	6.6
Wisconsin	42.40	50.30	51.10	56.90	58.30	6.8	7.8	7.8	8.0	7.9
Minnesota	48.20	52.10	54.10	61.80	66.30	9.1	8.5	8.4	7.8	7.6
Corn Belt:										
Ohio	58.40	62.00	66.70	68.40	67.60	6.0	6.1	6.0	5.9	5.9
Indiana	74.30	73.90	78.00	83.10	85.80	7.4	7.2	7.0	6.8	6.6
Illinois	86.10	83.20	87.10	98.20	100.00	7.6	6.8	6.3	6.7	6.7
Iowa	75.70	82.10	91.40	96.00	97.00	9.3	8.4	8.3	7.9	8.5
Missouri	38.60	44.70	47.00	50.30	46.80	7.4	8.3	8.2	9.0	8.4
Northern Plains:										
North Dakota	23.40	25.40	24.20	24.30	27.00	7.7	8.1	8.1	8.8	8.3
South Dakota	18.40	18.90	20.90	20.50	21.00	10.2	8.8	7.8	*	7.4
Appalachia:										
Virginia	30.50	28.70	29.20	30.10	28.20	2.6	2.7	1.8	2.4	2.7
West Virginia	21.30	21.40	19.90	22.50	18.70	4.0	3.5	2.9	4.0	2.6
North Carolina	29.60	28.40	34.10	31.00	31.90	2.6	2.4	2.5	2.6	2.9
Kentucky	43.20	42.90	41.10	38.00	38.40	6.2	4.9	5.0	5.3	5.5
Tennessee	34.90	34.70	39.10	37.40	37.30	4.2	3.8	4.3	7.1	5.3
Southeast:										
South Carolina	19.80	21.50	24.80	21.10	21.10	2.8	2.6	3.1	3.2	2.7
Georgia	25.00	26.80	28.40	23.80	26.10	3.2	3.5	3.3	3.5	3.8
Alabama	23.80	29.30	25.70	28.40	23.20	3.8	4.9	4.0	4.8	3.9
Delta States:										
Mississippi	24.70	30.40	31.80	26.20	29.80	4.2	5.6	5.7	4.8	5.4
Arkansas	34.30	35.80	39.80	42.10	45.20	5.8	6.0	5.9	6.8	6.9
Louisiana	33.40	36.00	44.10	32.00	41.30	3.2	3.7	4.9	4.3	6.6

* = Insufficient information.
1/ Cash rent as a percent of per acre value of rented farmland.

Table 7.--Cropland rented for cash: Average gross cash rent per acre and rent as a percent of value, selected States, 1987-91

State	Rent per acre					Rent to value 1/				
	1987	1988	1989	1990	1991	1987	1988	1989	1990	1991
	Dollars					Percent				
Northeast:										
Maine	31.80	36.90	36.40	35.70	34.30	4.1	5.4	3.2	5.2	5.7
Vermont	31.30	45.20	38.20	25.60	22.60	3.2	3.2	3.7	2.9	2.5
New York	32.00	31.30	37.80	30.20	33.90	4.2	3.7	3.8	4.7	5.0
New Jersey	48.00	61.10	67.40	*	66.50	0.5	0.6	0.3	*	0.4
Pennsylvania	40.00	42.70	46.50	43.30	42.10	2.5	2.4	1.9	2.3	2.2
Delaware	61.40	51.70	57.10	55.80	59.60	3.0	2.9	2.7	3.8	3.6
Maryland	50.80	50.50	55.10	49.30	53.30	2.7	2.0	1.8	3.7	3.0
Lake States:										
Michigan	41.90	41.70	44.20	41.40	45.50	5.9	5.9	5.9	5.7	6.0
Wisconsin	44.80	45.40	50.90	50.00	52.30	7.3	7.3	7.7	7.2	7.1
Minnesota	47.80	52.70	59.80	61.50	63.30	9.0	8.5	8.4	7.6	7.4
Corn Belt:										
Ohio	63.20	65.60	70.80	69.10	69.10	5.6	6.3	6.4	6.0	5.8
Indiana	77.00	77.00	83.10	86.60	86.70	7.5	7.2	7.2	6.9	6.8
Illinois	85.70	89.20	94.30	99.40	100.90	7.6	7.1	6.5	6.7	6.6
Iowa	80.30	86.30	95.80	99.60	100.80	9.8	8.6	8.2	8.0	8.2
Missouri	48.30	54.70	59.80	61.90	62.20	9.1	9.1	8.9	9.9	9.3
Northern Plains:										
North Dakota	28.20	28.80	29.40	25.20	28.70	8.4	8.1	8.4	8.9	9.0
South Dakota	25.50	27.10	27.30	36.20	37.40	10.0	9.5	8.8	8.4	8.0
Nebraska--										
(Nonirrigated)	42.30	48.50	51.30	59.40	58.30	10.3	10.2	8.4	8.8	8.6
(Irrigated)	81.20	85.50	100.10	101.60	98.90	11.6	10.5	9.8	9.3	8.9
Kansas--										
(Nonirrigated)	28.60	30.60	30.20	33.10	32.50	7.8	8.3	7.6	8.0	7.7
(Irrigated)	59.70	54.10	62.50	61.50	60.60	10.4	9.8	10.3	9.1	8.7
Appalachia:										
Virginia	37.70	36.20	37.40	37.70	34.50	3.2	2.9	2.2	2.7	2.8
West Virginia	31.70	29.70	35.70	29.70	29.50	4.2	4.6	3.8	4.9	4.6
North Carolina	33.70	34.00	38.70	32.90	34.60	2.8	2.6	2.8	2.7	3.0
Kentucky	53.30	52.70	62.10	47.50	52.70	6.8	6.1	6.5	6.3	6.6
Tennessee	39.90	46.60	46.80	46.00	51.20	4.8	5.3	5.9	7.1	6.0
Southeast:										
South Carolina	22.40	23.00	26.00	23.20	22.30	3.2	2.9	3.1	3.6	3.0
Georgia	26.20	30.70	32.80	27.30	27.90	3.9	4.2	4.0	3.9	3.9
Florida	99.20	106.90	114.10	105.00	126.10	3.1	3.0	3.1	2.0	3.6
Alabama	28.50	30.40	29.70	33.90	28.60	4.4	4.8	4.1	5.5	4.7
Delta States:										
Mississippi	31.20	36.30	40.60	33.80	37.90	5.0	5.8	6.3	5.6	6.0
Arkansas	44.40	50.40	52.00	49.80	55.50	6.5	7.2	6.4	6.7	6.6
Louisiana	36.50	44.60	55.00	46.30	49.50	3.6	4.8	6.0	6.1	7.0
Southern Plains:										
Oklahoma--										
(Nonirrigated)	23.00	24.30	25.80	27.20	25.60	4.8	5.3	5.1	5.5	5.7
(Irrigated)	37.20	33.70	36.10	42.50	42.10	8.3	6.8	6.8	6.1	7.1
Texas--										
(Nonirrigated)	19.90	20.50	22.60	20.10	20.30	2.3	2.5	3.1	2.9	3.1
(Irrigated)	40.60	41.10	49.50	43.10	42.50	5.4	4.8	6.1	4.8	4.9
Mountain:										
Montana--										
(Nonirrigated)	21.70	20.30	23.90	21.80	18.40	10.1	7.8	8.4	8.3	7.3
(Irrigated)	41.70	42.00	54.40	60.20	43.60	6.1	5.6	8.5	8.3	6.6
Idaho--										
(Nonirrigated)	34.10	30.80	38.70	36.90	41.30	7.6	6.7	7.0	6.4	7.4
(Irrigated)	77.80	91.20	96.00	94.80	92.00	7.9	8.5	8.1	9.3	8.9
Wyoming--										
(Nonirrigated)	11.20	12.00	14.30	13.90	10.20	7.8	7.8	8.5	9.3	6.6
(Irrigated)	42.50	42.50	45.30	37.90	40.30	7.0	8.7	8.7	8.0	8.3
Colorado										
(Nonirrigated)	21.10	24.30	28.90	20.50	23.50	5.5	4.7	6.3	6.9	8.1
(Irrigated)	59.10	63.80	68.70	70.90	70.80	6.6	6.7	7.5	8.6	6.1
New Mexico--										
(Irrigated)	69.80	74.40	70.50	62.00	70.40	2.7	2.3	3.9	4.1	3.9
Arizona--										
(Irrigated)	124.10	146.40	153.40	139.20	144.20	1.3	1.4	1.5	3.8	3.4
Utah--										
(Nonirrigated)	23.50	25.80	27.30	24.00	26.50	3.3	3.3	3.8	5.6	6.3
(Irrigated)	54.60	54.30	56.00	59.00	60.30	2.9	2.8	3.3	4.3	4.3
Nevada--										
(Irrigated)	80.00	77.40	79.30	72.10	87.70	4.9	5.0	7.0	4.5	5.1
Pacific:										
Washington--										
(Nonirrigated)	42.60	42.30	50.90	56.00	53.30	5.4	5.7	6.8	7.5	6.1
(Irrigated)	96.60	89.70	92.50	125.60	117.40	7.3	5.1	6.5	9.8	6.3
Oregon--										
(Nonirrigated)	49.70	42.20	55.70	50.00	53.10	5.7	4.4	7.2	5.4	4.7
(Irrigated)	88.10	81.50	84.00	88.50	96.00	6.2	5.8	7.9	5.6	6.2
California--										
(Irrigated)	160.20	166.80	184.20	155.00	167.60	3.3	3.9	5.0	5.3	4.8

* = Insufficient information.
1/ Cash rent as a percent of per acre value of rented cropland.

Table 8.--Pasture rented for cash: Average gross cash rent per acre and rent as ■ percent of value, selected States, 1987-91

State	Rent per acre					Rent to value 1/				
	1987	1988	1989	1990	1991	1987	1988	1989	1990	1991
	Dollars					Percent				
Northeast:										
Maine	16.30	21.40	17.60	16.30	18.10	2.2	4.3	1.3	2.8	3.4
Vermont	14.40	19.00	17.20	15.20	12.50	2.7	2.0	2.2	1.8	2.1
New York	14.40	16.50	16.00	16.10	16.90	3.5	3.7	3.4	4.3	5.2
New Jersey	18.60	19.90	22.90	*	*	1.9	1.9	2.0	■	■
Pennsylvania	18.60	19.90	22.90	23.50	21.60	1.9	1.9	2.0	2.1	1.7
Delaware	43.20	34.40	34.00	34.40	39.30	3.4	3.3	2.7	3.8	3.0
Maryland	32.10	31.90	30.80	30.80	33.80	1.8	2.0	1.6	2.6	2.5
Lake States:										
Michigan	17.50	15.90	20.00	20.50	21.70	4.1	3.5	4.7	4.4	4.8
Wisconsin	20.20	21.40	23.30	25.00	23.30	7.2	7.2	6.7	6.8	6.5
Minnesota	14.50	18.10	17.80	20.70	22.90	7.0	7.2	6.6	7.4	8.8
Corn Belt:										
Ohio	25.10	28.40	27.60	28.80	30.50	5.3	4.7	4.5	5.0	4.5
Indiana	35.70	31.30	33.90	35.30	33.40	6.4	5.8	5.6	5.9	5.4
Illinois	27.70	28.60	32.80	33.20	33.50	6.1	6.3	6.0	6.1	6.0
Iowa	28.10	28.80	30.00	32.60	35.40	8.5	8.6	7.7	7.2	7.7
Missouri	19.40	22.70	22.80	24.10	24.10	5.4	6.0	6.2	6.8	6.2
Northern Plains:										
North Dakota	7.80	8.50	8.40	8.50	8.80	6.7	6.6	6.8	6.9	6.6
South Dakota	6.30	6.40	7.10	6.80	8.60	8.7	8.3	7.9	7.6	8.0
Nebraska	9.80	11.40	12.30	10.60	12.40	9.4	10.9	7.7	7.1	7.9
Kansas	10.80	11.80	10.80	11.50	11.60	5.5	5.5	5.2	5.2	5.1
Appalachia:										
Virginia	22.80	20.40	21.00	22.40	21.20	2.8	2.4	1.6	2.1	2.6
West Virginia	14.80	14.00	14.50	11.50	11.10	3.0	3.2	3.1	2.7	2.3
North Carolina	19.20	20.70	22.50	20.00	18.70	1.7	1.9	1.8	2.5	2.3
Kentucky	24.30	27.50	25.50	24.90	25.20	4.4	4.7	4.0	4.8	4.3
Tennessee	21.60	22.70	26.40	26.90	25.20	3.0	3.3	3.3	5.7	4.6
Southeast:										
South Carolina	15.60	17.60	18.40	17.90	17.50	2.3	2.2	2.2	3.4	2.7
Georgia	19.20	20.80	21.00	19.50	19.90	2.9	2.9	2.4	3.1	3.3
Florida	32.30	25.20	27.10	20.20	22.50	1.5	0.9	1.2	0.8	1.7
Alabama	17.10	18.60	18.00	20.60	18.20	3.5	3.8	3.7	3.9	3.4
Delta States:										
Mississippi	12.80	14.70	15.90	14.70	15.60	2.4	3.4	3.4	3.6	3.7
Arkansas	14.10	16.00	19.90	16.90	15.50	3.1	3.7	3.7	3.7	3.3
Louisiana	17.20	14.70	16.10	18.30	17.70	2.0	1.8	2.1	3.4	3.0
Southern Plains:										
Oklahoma	10.20	10.40	9.50	9.70	10.50	3.0	3.3	2.8	3.2	3.4
Texas	7.70	7.80	7.30	9.20	9.00	1.0	1.2	1.4	1.6	1.7
Mountain:										
Montana	5.20	4.20	5.00	6.00	5.10	5.0	3.3	6.3	6.8	5.0
Idaho	16.20	16.10	20.60	16.40	17.20	4.5	6.3	7.3	5.6	5.2
Wyoming	5.20	4.50	5.50	4.90	3.50	5.2	5.9	5.2	4.9	3.4
Colorado	8.30	9.30	7.30	8.20	7.50	3.5	3.1	2.3	5.0	4.7
Utah	18.30	17.10	19.00	20.20	20.20	2.5	2.3	3.2	4.6	4.3
Pacific										
Washington	23.60	32.40	29.10	30.00	*	3.3	4.9	6.8	8.5	■
Oregon	16.10	14.50	14.40	*	*	4.7	4.8	6.5	*	■
California	30.30	33.80	37.10	42.50	*	0.9	1.4	4.0	9.0	*

* = Insufficient information.
1/ Cash rent as ■ percent of per acre value of rented pasture.

Table 9.--Cattle grazing rates on privately owned nonirrigated land, 1986-90

State	1986	1987	1988	1989	1990
	Dollars per animal unit month 3/				
Northern Plains:					
North Dakota	7.63	7.41	7.67	8.26	8.52
South Dakota	9.19	8.61	9.98	10.65	12.53
Nebraska	9.75	10.29	10.40	13.13	15.78
Kansas	8.17	8.87	9.42	10.13	10.58
Southern Plains:					
Oklahoma	5.08	5.68	6.09	9.94	4.31*
Texas	8.79	8.30	8.06	9.37	7.61*
Mountain:					
Montana	8.30	7.94	9.79	9.61	9.61
Idaho	7.51	6.60	6.99	6.93	8.42
Wyoming	8.31	6.31	8.93	10.06	9.64
Colorado	8.28	8.27	8.43	8.39	10.20
New Mexico	5.98	5.82	5.46*	7.51	6.66
Arizona	5.82	7.19	4.47*	3.92*	1/
Utah	5.34	5.98	8.70	9.06	7.79
Nevada	2.95	7.31	1/	4.18*	1/
Pacific:					
Washington	9.77	9.55	7.28*	7.94	7.82
Oregon	7.69	5.91	7.03*	7.40	8.28
California	7.93	8.46	9.43*	10.72	9.81*
16-State average 2/	8.33	8.09	8.98	10.06	10.86

* = Coefficient of variation exceeds 25 percent.

1/ Insufficient number of reports for an accurate estimate of grazing rates. 2/ All States except Texas. 3/ Includes cow-calf rates converted to animal unit month (1 aum = cow-calf * 0.833).

Source: USDA, NASS. Agricultural Prices. Pr 1 (12-90). Dec. 1990 and earlier issues.

Farmland Transfers

Real estate brokers and appraisers, commercial bankers, officials of the Farmers Home Administration and the Farm Credit System, and farmers and ranchers contacted in the 1991 Farmland Market Survey provided data on 6,675 farmland sales comprising nearly 2.1 million acres. They reported details on up to five of the most recent voluntary and estate sales completed in their county(s) between September 1 and December 31, 1990. Sales involved at least 10 acres used primarily for agriculture. Reported sales are not necessarily representative of all sales during the year.

Respondents also estimated the percentages of farmland transfers by types within their county(s) during calendar 1990. Transfers at the national level were distributed among voluntary and estate sales (71 percent); family transfers (17 percent); foreclosures, bankruptcies, and condemnation sales and transfers (9 percent); and "other sales and transfers" (3 percent). All percent shares during 1990 were similar to a year earlier.

Price and Acres Per Sale Average Near the Previous Year's

Based on reported sales, acres per sale averaged 307 at the national level, nearly identical to a year earlier (table 10). Most regional averages were similar too, although they were lower in Appalachia and the Southern Plains and sharply higher in the Mountain region. Reduced averages in Appalachia and the Southern Plains brought average acres sold more in line with recent trends. The large increase in the Mountain region resulted from several sales of large tracts of grazing land (table 11).

The price per sale averaged $637 per acre, down slightly from last year's $654. Regional averages were generally similar to a year earlier, but were appreciably lower in the Northeast and Pacific regions.

Most Purchases by Owner-Operators

Owner-operators, including part-owners, made 59 percent of the reported purchases of farmland in late 1990, involving 57 percent of the acres bought and 62 percent of the total value of farmland purchased (table 12). These U.S. percentages have remained fairly stable over recent years. However, tenants increased their share of acres bought from 9 percent in 1990 to 14 percent in 1991, while shares by nonfarmers dropped from 33 to 28 percent.

Regional shares fluctuated. In 1991, owner-operators' shares of acres purchased substantially increased in the Appalachian, Southeast, and Pacific regions. Larger shares by owner-operators generally meant reduced shares by nonfarmers, who accounted for 44 percent of acres purchased in Appalachia (61 percent in 1990) and 29 percent in the Southeast

Table 10.--Farmland transfers: Average acres per sale and price per acre, 1983-91 1/

Region	1983	1984	1985	1986	1987	1988	1989	1990	1991
					Acres per sale				
Northeast	114	143	132	138	138	141	137	132	122
Lake States	126	147	129	121	140	144	139	134	141
Corn Belt	127	133	127	129	134	142	139	138	135
Northern Plains	307	270	297	387	323	403	383	375	375
Appalachia	105	112	110	123	131	115	130	226	128
Southeast	191	181	210	185	219	194	211	204	221
Delta States	223	224	164	196	277	237	349	224	222
Southern Plains	305	340	324	325	356	529	397	542	356
Mountain	934	1,009	1,380	1,051	977	1,891	1,179	1,243	1,752
Pacific	270	225	245	165	245	383	567	489	508
47 States	219	232	259	245	236	317	290	306	307
					Price per acre				
Northeast	1,282	1,142	1,182	1,248	1,658	1,768	2,105	2,430	2,027
Lake States	1,201	1,119	945	806	666	644	744	800	798
Corn Belt	1,468	1,459	1,187	944	870	955	1,088	1,097	1,187
Northern Plains	505	525	408	265	265	260	294	323	315
Appalachia	987	1,151	981	984	961	951	1,060	1,022	1,018
Southeast	1,118	1,234	935	1,064	1,037	1,253	1,455	1,400	1,277
Delta States	1,226	1,120	924	793	662	527	565	649	665
Southern Plains	678	647	598	792	448	321	379	324	415
Mountain	382	364	306	274	273	160	236	242	235
Pacific	1,693	2,211	1,856	2,079	1,447	1,310	1,192	1,509	1,107
47 States	858	888	747	725	607	566	639	654	637

1/ Reported acres and prices for each State are weighted to regional and U.S. averages according to the State's acreage of land in farms. Arizona is excluded from averages for the Mountain region and the 47 States. Based on reported sales during the 5 months ending March 1, 1983-85, the 5 months ending February 1, 1986-89, and the 4 months ending January 1, 1990-91.

Table 11.--Principal use of farmland prior to sale: Percent of acres and value, 1991 1/

Region	Nonirrigated cropland	Irrigated cropland	Pasture and grazing land	Woodland on farms
		Percent of acres		
Northeast	79	1	10	10
Lake States	89	1	4	6
Corn Belt	78	3	16	3
Northern Plains	42	7	51	*
Appalachia	39	3	40	18
Southeast	29	18	34	19
Delta States	38	24	27	11
Southern Plains	23	13	63	1
Mountain	7	7	86	*
Pacific	20	37	42	1
48 States	32	10	54	4
		Percent of value		
Northeast	83	1	9	7
Lake States	94	2	2	2
Corn Belt	89	3	7	1
Northern Plains	56	21	23	*
Appalachia	46	3	38	13
Southeast	17	44	28	11
Delta States	34	32	26	8
Southern Plains	28	22	48	2
Mountain	14	38	48	*
Pacific	13	77	9	1
48 States	49	24	23	4

* = Less than 0.5 percent.

1/ Based on reported sales during the 4 months ending January 1, 1991.

(43 percent in 1990). In the Pacific region, however, tenants' share dropped from 13 percent in 1990 to 3 percent in 1991.

Owner-operators also substantially increased their shares of total value of farmland purchased in the Northeast and Southeast regions, while nonfarmer shares declined (table 12).

Seller Shares Steady

At the national level, estate sales accounted for 15 percent of the reported acres sold in late 1990, unchanged from recent years (table 13). Active farmers remaining in farming sold 22 percent of the acres sold, while those who retired or quit sold 17 percent. Shares by both groups were similar to last year's. Retired farmers sold 11 percent of the acreage (10 percent in 1990) and nonfarmers sold 35 percent, unchanged from a year earlier. Seller shares of value of farmland sold were similar to those of recent years.

Several regional adjustments occurred. In the Northern Plains, for example, active farmers who retired or quit sold 26 percent of the acreage (15 percent in 1990), while the share sold by nonfarmers dropped from 28 to 17 percent. A different pattern emerged in the Southern Plains, where estates (23 percent) and nonfarmers (32 percent) accounted for substantially larger shares in 1991. Sales by active farmers were considerably lower.

Tenure Shifts to Owner-Operators

Based on reported sales, owner-operators operated 44 percent of the farmland prior to sale. Following sale, however, they are expected to operate 74 percent of the farmland sold.

Table 12.--Farmland buyers: Percent of purchases, acres, and value by type of buyer, 1989-91 1/

Region	Buyer											
	Tenant			Owner-operator 2/			Retired farmer			Nonfarmer		
	1989	1990	1991	1989	1990	1991	1989	1990	1991	1989	1990	1991
	Percent of purchases											
Northeast	10	14	12	45	44	44	1	1	1	44	41	43
Lake States	16	18	17	58	55	59	1	2	2	25	25	22
Corn Belt	12	12	12	58	62	61	2	2	2	28	24	25
Northern Plains	15	14	12	70	74	75	4	1	1	11	11	12
Appalachia	7	7	9	46	51	51	2	2	2	45	40	38
Southeast	4	4	6	51	46	56	2	2	1	44	48	37
Delta States	10	12	15	53	48	49	3	1	4	34	39	32
Southern Plains	13	14	14	54	62	56	2	2	3	31	22	27
Mountain	11	12	14	70	69	59	1	2	1	17	17	26
Pacific	12	12	8	73	66	63	1	*	3	14	22	26
48 States	11	12	12	57	59	59	2	2	2	29	27	27
	Percent of acres											
Northeast	11	14	16	47	47	47	2	1	1	40	38	36
Lake States	17	21	22	60	56	57	1	1	2	22	22	19
Corn Belt	10	11	11	56	62	58	2	2	1	32	25	30
Northern Plains	17	16	13	63	72	74	5	1	1	15	11	12
Appalachia	4	5	7	49	33	48	2	1	1	44	61	44
Southeast	4	2	4	57	54	66	1	1	1	39	43	29
Delta States	8	7	13	40	40	43	1	2	2	51	51	42
Southern Plains	10	7	8	47	53	54	1	*	3	42	40	35
Mountain	5	6	19	67	55	50	*	1	*	28	38	31
Pacific	5	13	3	60	70	80	*	*	1	34	17	16
48 States	9	9	14	57	57	57	2	1	1	32	33	28
	Percent of value											
Northeast	5	9	10	39	31	53	1	1	1	55	59	36
Lake States	17	20	23	60	58	60	1	2	2	22	20	15
Corn Belt	10	11	10	53	60	59	2	2	2	35	27	29
Northern Plains	13	15	12	71	75	72	4	*	1	11	10	15
Appalachia	5	6	6	51	46	46	1	1	1	43	47	47
Southeast	1	1	2	59	64	79	1	*	*	39	35	19
Delta States	7	7	13	41	39	40	2	1	2	50	53	45
Southern Plains	10	9	11	49	61	54	1	1	3	40	29	32
Mountain	7	7	11	61	52	52	1	1	*	31	40	37
Pacific	13	5	3	71	79	76	1	*	2	16	16	19
48 States	8	8	9	54	60	62	1	1	1	37	31	28

* = Less than 0.5 percent.

1/ Percentages may not add to 100 because of rounding. Based on reported sales during the 5 months ending February 1, 1989 and the 4 months ending January 1, 1990 and 1991. 2/ Includes part and full-owner operators.

Most of the gain comes from a reduction in tenant-operated farmland. Prior to sale, tenants operated 47 percent of the farmland sold. Following sale, they are expected to operate only 15 percent. Shifts from tenant-operated land to owner-operated land were highest in the Lake States, Northern Plains, Corn Belt, and Pacific regions. Shifts were least pronounced in the Northeast, Delta States, and Appalachian regions.

Comparisons of acres held by tenure groups before and after sale also indicate an increase in the proportion held by owner-operators (table 14). About 76 percent of land operated by owners prior to sale is expected to continue as such after sale with the rest expected to be operated by hired managers (12 percent), tenants (10 percent), or not farmed (2 percent).

Changes within other tenure groups show a major shift of control to owner-operators. About 71 percent of farmland operated by hired managers prior to sale is expected to be owner-operated following sale (table 14). Similarly, owner-operators are expected to control 73 percent of the farmland operated by tenants prior to sale and 60 percent of the land not farmed before sale.

Most Farmland Sold To Stay in Agriculture Over Next 5 Years

Respondents expect about 93 percent of the farmland in all reported sales to remain in agricultural uses over the next 5 years, 1 percent in forestry, and 6 percent in other uses such as recreation, housing, and commercial/industrial operations (figure 6). If realized, this would represent a shift toward agricultural uses from year-earlier expectations. At that time,

Table 13.--Farmland sellers: Percent of sales, acres, and value by type of seller, 1989-91 1/

Region	Seller														
	Estate			Active farm operator who remained in farming			Active farm operator who retired or quit			Retired farmer			Nonfarmer/ nonfarm business		
	1989	1990	1991	1989	1990	1991	1989	1990	1991	1989	1990	1991	1989	1990	1991
	Percent of sales														
Northeast	10	8	10	21	21	22	28	26	28	18	20	20	23	25	20
Lake States	14	17	13	15	15	19	25	16	17	14	18	23	32	34	28
Corn Belt	29	28	30	15	17	16	15	15	13	13	14	14	28	26	27
Northern Plains	29	30	31	17	15	14	11	12	13	17	15	19	26	28	23
Appalachia	25	20	25	22	20	22	17	22	17	12	13	11	24	25	25
Southeast	18	15	16	30	25	29	14	11	17	10	13	10	28	36	28
Delta States	10	14	16	29	19	26	17	19	16	9	12	16	34	36	26
Southern Plains	21	21	23	25	24	24	15	15	12	10	13	12	29	27	29
Mountain	11	12	12	26	27	31	18	20	17	9	8	12	36	33	28
Pacific	10	8	12	35	32	29	20	22	23	11	8	12	24	30	24
48 States	21	21	23	21	20	21	17	16	15	13	14	15	28	29	26
	Percent of acres														
Northeast	6	9	8	19	20	18	34	29	31	18	20	24	21	22	19
Lake States	13	15	16	16	16	17	27	19	19	12	16	21	32	34	27
Corn Belt	25	27	28	17	16	15	15	14	13	11	12	13	32	31	31
Northern Plains	17	25	25	21	19	14	16	15	26	15	13	18	31	28	17
Appalachia	29	13	23	19	12	22	15	19	15	9	27	9	27	29	31
Southeast	19	12	18	36	38	37	16	10	9	4	8	10	21	32	26
Delta States	12	13	14	26	16	28	12	20	13	3	8	10	47	43	35
Southern Plains	23	14	23	35	35	18	13	27	18	6	6	9	23	18	32
Mountain	4	7	3	33	21	28	16	13	14	8	3	6	39	56	49
Pacific	4	11	8	19	35	25	19	16	21	10	7	5	48	31	41
48 States	15	15	15	26	23	22	16	17	17	10	10	11	33	35	35
	Percent of value														
Northeast	8	9	14	31	17	26	25	34	25	13	15	19	23	25	16
Lake States	13	16	18	16	15	17	27	18	18	13	17	21	31	34	26
Corn Belt	31	32	33	16	17	15	14	12	12	10	11	12	29	28	28
Northern Plains	26	30	30	21	15	13	13	16	17	15	13	19	25	26	21
Appalachia	27	18	25	20	18	26	17	22	17	10	12	11	26	30	21
Southeast	13	5	14	51	55	56	16	14	9	6	4	5	15	22	16
Delta States	11	12	14	30	18	31	12	23	13	4	6	9	43	41	33
Southern Plains	24	16	24	25	33	21	14	20	17	7	8	10	30	23	28
Mountain	5	8	7	46	24	34	15	14	17	7	5	9	27	49	33
Pacific	6	4	9	41	57	33	21	21	18	11	4	4	21	14	36
48 States	18	15	20	29	32	28	17	18	15	10	9	11	26	26	26

1/ Percentages may not add to 100 because of rounding. Based on reported sales during the 5 months ending February 1, 1989 and the 4 months ending January 1, 1990 and 1991.

88 percent of farmland in reported sales was expected to remain in agricultural uses, 2 percent in forestry, and 10 percent in other uses.

Based on probable use over the next 5 years, agricultural use was expected for 90 percent or more of the farmland sold in nearly all regions (88 percent in the Delta States), except East Coast regions. Land uses are more varied in the Northeast, Appalachian, and Southeast regions, where agricultural use competes more actively with nonagricultural uses.

Twenty-two percent of the farmland sold in late 1990 in Appalachia is expected to be in "other uses" 5 years later. Such uses are also expected to be important in the Northeast (13 percent) and the Southeast (10 percent), but agriculture is expected to continue as the dominant use.

Table 14.--Tenancy before and after sale, in percent of acres sold, 48 States, 1991 1/

Person farming before sale	Person farming after sale				
	Owner	Hired manager	Tenant	Not farmed	Total
			Percent		
Owner	76	12	10	*	100
Hired manager	71	17	9	3	100
Tenant	73	*	23	1	100
Not farmed	60	4	5	31	100

1/ Based on reported sales during the 4 months ending January 1, 1991.

Farmland expected to remain in agriculture over the next 5 years averaged 335 acres per sale and $563 per acre at the national level (table 15). Farmland expected to be in other uses averaged 172 acres per sale and $939 per acre. Average acres and prices for both uses varied widely among regions. High average prices were recorded for East Coast regions. The exceptionally high price per acre for other uses in the Pacific region largely resulted from several sales of high-priced California farmland expected to be converted to housing developments and other urban uses. In contrast, the average price for farmland expected to remain in agricultural use in the Mountain region ($158) stemmed from sales of large tracts of grazing land at relatively low prices.

Financing Rate Slightly Lower

About 64 percent of the reported sales in late 1990 involved financing, down slightly from last year's 66 percent (table 16). The share involving financing grew rapidly in the mid- to late-1970's as farm real estate values rose sharply. Lower farmland values following the record high in 1982 also corresponded with proportionately fewer sales being financed. Even though U.S. farm real estate values began increasing in 1988, fewer sales were financed and, presumably, more cash transactions occurred. This pattern generally holds for the farm production regions too.

Most regions showed a smaller percent of sales financed in 1991, except the Corn Belt and Northern Plains, where the rate edged up to 66 percent. The Delta States' 65 percent financed was appreciably above last year's 59 percent, but in line with the region's recent trend.

Figure 6

Probable Use of Farmland 5 Years After Purchase

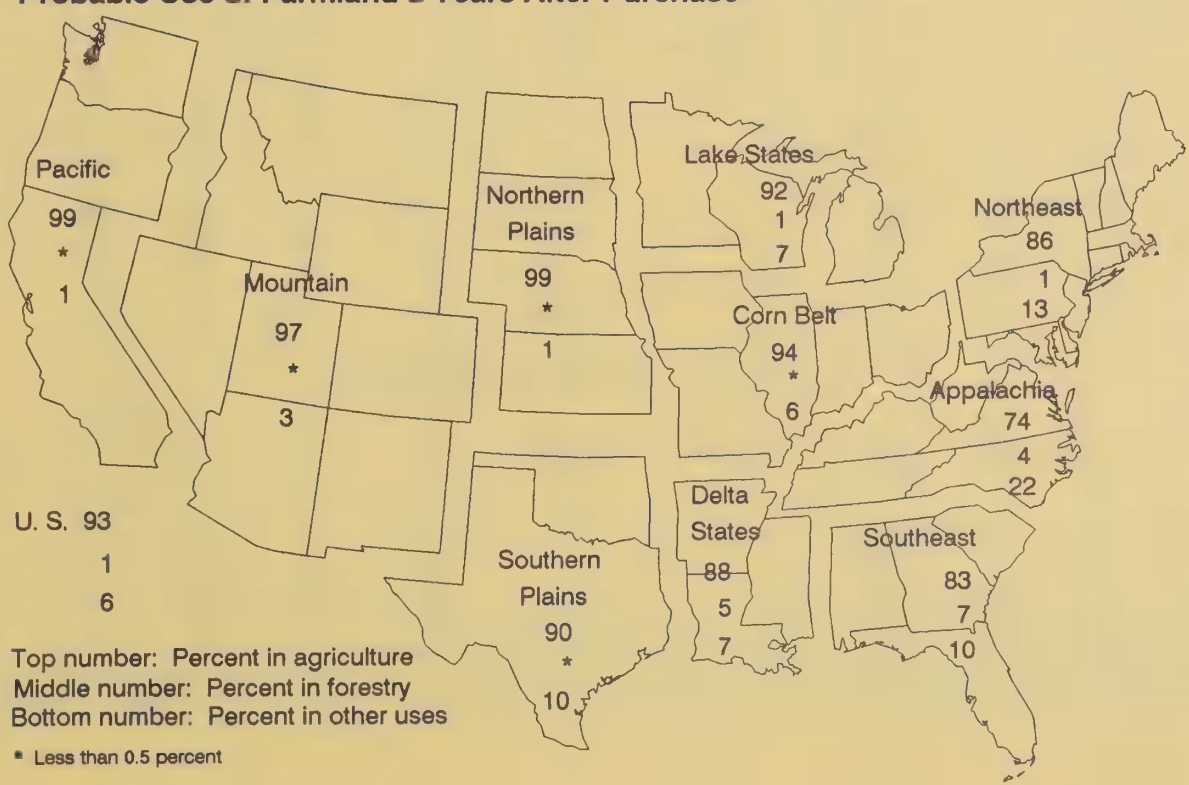


Table 15.--Farmland transfers: Average acres per sale and price per acre by probable use of property 5 years after purchase, 1989-91 1/

Region	Agriculture 2/			Forestry			Other 3/		
	1989	1990	1991	1989	1990	1991	1989	1990	1991
				Acres per sale					
Northeast	145	140	135	140	163	81	122	111	85
Lake States	146	143	153	74	147	83	72	73	84
Corn Belt	142	141	138	209	140	101	109	94	115
Northern Plains	389	384	363	▪	*	▪	168	198	127
Appalachia	143	142	117	147	204	102	92	429	141
Southeast	226	212	267	191	200	155	173	212	128
Delta States	399	262	253	96	139	113	275	124	122
Southern Plains	407	523	354	318	252	137	159	530	425
Mountain	1,167	1,258	1,922	39	*	40	625	1,131	555
Pacific	571	540	547	80	292	80	189	264	77
48 States	311	314	335	151	173	120	160	276	172
				Price per acre					
Northeast	1,738	1,485	1,687	759	497	625	4,978	4,483	2,692
Lake States	730	772	799	266	165	386	765	800	580
Corn Belt	1,103	1,053	1,192	303	507	394	1,462	1,101	1,021
Northern Plains	271	305	325	▪	*	*	565	284	571
Appalachia	997	912	1,016	514	336	534	1,479	499	1,256
Southeast	1,166	2,064	1,794	740	621	661	3,138	1,399	1,393
Delta States	572	675	687	596	506	526	529	650	695
Southern Plains	373	318	377	525	322	663	657	331	495
Mountain	201	196	158	700	*	725	492	309	573
Pacific	483	1,640	882	563	514	1,108	1,212	1,350	11,664
48 States	542	643	563	622	490	593	1,797	817	939

▪ = Insufficient information or none reported.

1/ Based on reported sales during the 5 months ending February 1, 1989 and the 4 months ending January 1, 1990 and 1991. 2/ Cropland and grazing land. 3/ Includes uses for recreation, rural residences, residential subdivisions, and commercial/industrial purposes.

Table 16.--Credit-financed farmland transfers, 1980-91 1/

Year	North-east	Lake States	Corn Belt	Northern Plains	Appa-lachia	South-east	Delta States	Southern Plains	Moun-tain	Pacific	U.S.
					Percent of transfers on which debt was incurred						
1980	93	95	93	94	80	86	87	88	93	92	91
1981	89	95	93	93	86	86	85	88	88	91	90
1982	88	94	91	91	83	88	83	85	89	92	89
1983	86	91	85	85	80	82	85	80	84	88	84
1984	84	90	85	85	78	82	82	81	88	89	84
1985	85	87	77	78	81	82	83	81	85	86	82
1986	82	83	72	69	75	74	82	76	78	78	76
1987	76	79	70	64	76	72	76	68	71	75	73
1988	78	78	67	62	72	63	74	68	76	73	70
1989	71	80	65	62	68	56	63	65	64	68	66
1990	76	77	64	65	65	60	59	64	68	68	66
1991	69	74	66	66	57	56	65	61	63	61	64
					Debt as a percent of purchase price						
1980	80	82	79	81	81	79	87	68	75	71	78
1981	78	81	79	81	83	80	80	80	69	73	78
1982	77	82	78	81	78	78	82	76	74	70	77
1983	76	81	76	80	78	79	80	76	69	71	76
1984	80	81	78	76	80	76	87	76	73	73	77
1985	78	81	76	77	78	79	87	79	72	69	76
1986	77	77	73	79	81	83	85	82	72	71	77
1987	76	81	73	74	78	81	81	81	82	72	77
1988	68	77	70	75	75	74	80	79	61	68	72
1989	73	78	73	75	76	64	81	75	76	71	73
1990	76	78	72	70	78	72	82	74	76	46	69
1991	76	76	72	69	77	76	84	72	73	70	74

1/ Based on reported sales during the 5 months ending March 1, 1980-85, the 5 months ending February 1, 1986-89, and the 4 months ending January 1, 1990-91.

Table 17.--Credit-financed farmland transfers: Percent of credit volume extended, by type of lender, 1982-91 1/

Regions and type of lender	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
					Percent					
Northeast:										
Sellers	38	29	29	32	28	31	27	22	19	20
Commercial banks	6	9	16	17	24	27	36	32	30	36
Insurance companies	*	1	1	*	*	2	*	1	*	*
Farm Credit System	35	39	27	23	20	19	24	40	41	35
Others	21	22	27	27	28	20	12	5	10	9
Lake States:										
Sellers	60	44	44	49	53	41	39	38	33	37
Commercial banks	4	6	10	12	16	30	31	37	39	36
Insurance companies	1	1	3	1	1	*	*	*	2	2
Farm Credit System	25	38	32	24	17	18	20	20	16	14
Others	10	11	11	15	13	10	10	5	10	11
Corn Belt:										
Sellers	37	37	32	27	30	20	17	20	21	18
Commercial banks	4	10	15	16	38	45	54	44	37	43
Insurance companies	5	5	4	6	3	7	2	7	10	6
Farm Credit System	44	37	36	33	16	15	15	25	25	28
Others	10	10	13	16	12	13	12	4	7	5
Northern Plains										
Sellers	35	32	27	25	49	24	19	24	31	29
Commercial banks	4	4	7	14	20	36	33	30	26	34
Insurance companies	3	2	4	4	10	2	3	4	2	*
Farm Credit System	39	42	43	39	14	23	34	33	26	32
Others	19	21	20	19	7	14	11	9	15	5
Appalachia:										
Sellers	27	17	17	26	27	15	18	30	18	14
Commercial banks	12	20	27	25	35	54	47	40	45	51
Insurance companies	2	4	1	1	*	1	1	*	*	3
Farm Credit System	33	33	33	25	18	13	21	24	27	26
Others	21	26	24	23	20	16	14	6	10	6
Southeast:										
Sellers	14	17	24	22	24	35	25	8	26	14
Commercial banks	5	19	9	10	16	23	44	48	37	33
Insurance companies	3	1	7	1	2	12	7	18	15	43
Farm Credit System	63	50	41	43	34	17	16	22	18	8
Others	15	12	20	23	23	12	9	4	4	2
Delta States:										
Sellers	15	13	19	15	9	19	7	13	16	18
Commercial banks	5	15	14	18	27	22	25	31	33	37
Insurance companies	15	3	3	9	10	3	7	20	6	14
Farm Credit System	44	42	38	29	34	12	40	31	32	19
Others	21	26	27	30	19	44	21	5	13	12
Southern Plains:										
Sellers	43	31	23	24	30	15	14	27	35	29
Commercial banks	5	9	13	11	13	23	26	29	16	27
Insurance companies	1	9	3	3	18	9	*	2	1	1
Farm Credit System	34	27	37	35	25	24	39	35	40	33
Others	17	25	23	28	14	29	21	7	8	10
Mountain:										
Sellers	56	41	22	50	42	52	33	40	37	30
Commercial banks	1	2	3	3	3	6	6	17	9	8
Insurance companies	5	7	18	1	1	2	7	7	9	11
Farm Credit System	27	35	37	29	27	26	35	27	32	42
Others	10	15	20	17	26	11	19	9	13	9
Pacific:										
Sellers	56	52	30	39	31	30	39	40	45	49
Commercial banks	1	2	6	7	9	12	3	10	5	2
Insurance companies	6	1	17	5	1	21	19	2	15	7
Farm Credit System	26	31	38	32	49	24	22	35	28	36
Others	11	13	9	17	10	12	18	13	7	6
48 States:										
Sellers	41	33	28	33	32	30	24	24	28	23
Commercial banks	4	9	11	13	21	28	32	34	28	32
Insurance companies	4	4	7	3	5	7	5	7	8	13
Farm Credit System	37	37	36	31	25	19	25	29	27	26
Others	14	16	18	20	17	16	14	6	9	6

* = Less than 0.5 percent

1/ Based on reported sales during the 5 months ending March 1, 1982-85, the 5 months ending February 1, 1986-89, and the 4 months ending January 1, 1990-91. Beginning in 1989, the Farm Credit System includes the former Federal Land Banks and Production Credit Associations (PCA'S). In preceding years, the PCA'S were included in the "Others" group.

Foreign Ownership of U.S. Agricultural Land

The U.S. Department of Agriculture monitors foreign ownership of U.S. agricultural land (farm and forest lands) under the Agricultural Foreign Investment Disclosure Act of 1978.

This law required all foreign owners of U.S. agricultural land, as of February 1, 1979, to submit reports to the Secretary of Agriculture detailing the number of acres owned and associated information. Thereafter, subsequent transactions (acquisitions and dispositions) must be reported to the Secretary within 90 days of their occurrence. This provides the Department with a continuing inventory of foreign ownership of U.S. agricultural land.

As of December 31, 1990, foreign interests reported owning 14.45 million acres of U.S. agricultural land. This was slightly more than 1 percent of the 1.27 billion acres of privately owned U.S. agricultural land and about 0.6 percent of all U.S. land. Although the 14.45-million-acre total is 15 percent above a year earlier, the proportion has remained close to 1 percent since 1981.

Foreign owners do not exclusively own all 14.45 million acres. About 62 percent of the acreage was owned by U.S. corporations in which foreigners had a significant interest or substantial control. The remaining 38 percent was held by foreigners not affiliated with U.S. corporations.

Because of U.S. corporate landholdings, an increase in foreign-owned land does not necessarily represent land newly acquired by foreigners. Corporate landholdings may show up as foreign-owned in one year, but not another, as a corporation's stock passes in and out of foreign ownership. The land, however, is still owned by the same corporation.

Forest land accounted for 50 percent (7.3 million acres) of all foreign-owned agricultural land; cropland, 17 percent (2.4 million acres); pasture and other agricultural land (citrus groves, orchards, cattle feedlots, and so forth), 30 percent (4.3 million acres); and agricultural land not used for cultivation, 3 percent (450,000 acres).

The amount of "farmland" (cropland, pasture, and other agricultural land) owned exclusively by foreigners not associated with a U.S. corporation or other U.S. business entity was about 3 million acres.

Investors from six countries owned 70 percent of the foreign total: Canada (27 percent), the United Kingdom (19 percent), Germany and France (8 percent each), and the Netherlands Antilles and Switzerland (4 percent each). Japanese investors, including U.S./Japan holdings, owned 4 percent of the foreign-held acreage (app. table 3).

Corporations (U.S. and foreign) owned 12 million acres; partnerships, 1.3 million acres; and individuals, 950,000 acres. The remaining 0.2 million acres were owned by estates, trusts, associations, and others.

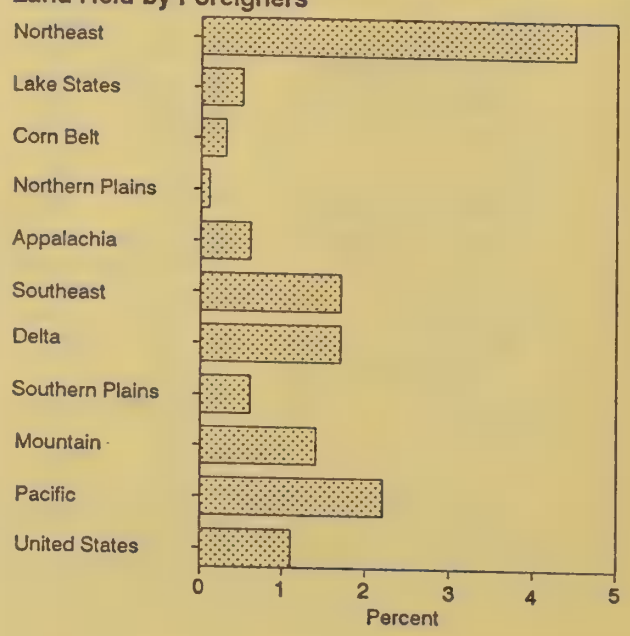
Foreigners reported agricultural landholdings in all States except Rhode Island, and in Puerto Rico and Guam. Except for Maine's 16.6 percent, most States reported a small percentage of privately owned agricultural land held by foreign interests (table 18). However, nearly 9 percent of Hawaii's land and 5 percent of New Hampshire's land is foreign-owned.

Foreign-owned acreage is concentrated in the Northeast (3.7 million acres), accounting for 4.5 percent of the region's privately owned agricultural land (figure 7). Proportions owned by foreigners in other regions ranged from 0.1 percent in the Northern Plains to 2.2 percent in the Pacific region.

Maine accounts for the largest concentration of foreign-owned acres, 16.6 percent of the State's privately owned land and 21 percent of all foreign-owned U.S. agricultural land. Most (99 percent) of the foreign-owned land in Maine is forest land owned by four companies. Two companies are Canadian, the third is a U.S. corporation that is partially Canadian-owned, and the fourth is a U.S. corporation that is partially French-owned.

Foreign owners do not appear to be taking the agricultural land out of production. At the time of reporting, foreign owners stated that they intended to keep 94 percent of the acreage in agricultural use. They also reported no change in tenure for 48 percent of the acreage, some change for 25 percent, and no information on the remaining 27 percent. [J. Peter DeBraal]

Figure 7
Percent of Privately Owned Agricultural Land Held by Foreigners



Debt as a percent of purchase price also moved lower during the 1980's. The reported 74 percent for 1991 nationwide represents an upturn from the recent trend (table 16). Percents for most regions approached year-earlier levels, except in the Pacific region. The 70 percent of sales financed there was substantially above last year's 46 percent, but still in line with levels in the late 1980's. Last year's low figure likely represented an aberration in characteristics among reported sales.

More Financing by Commercial Banks and Insurance Companies

Sources of credit vary from year to year as prospective borrowers shop for financing at most favorable terms. However, several shifts in sources of financing occurred during the 1980's. In 1981 and at a time when farmland values were rising, seller financing accounted for 40 percent of credit extended, compared with only 23 percent in 1991 (table 17). Credit provided by the Farm Credit System also declined, dropping from 37 percent in 1981 to 26 percent in 1991. Commercial banks assumed an increasing share of the market, expanding their share from 4 percent in 1981 to 32 percent 10 years later. The share by insurance companies also increased, but only moderately. Insurance companies provided 4 percent of the financing in 1981 and 13 percent in 1991.

Farm Real Estate Tax Developments

Taxes levied on farm real estate (land and buildings) by State and local governments totaled $4.4 billion in 1989, 2.7 percent above the 1988 figure (table 19). [1/] The U.S. average tax per acre was $5.06, up from $4.92 (table 20). Higher taxes per acre were more than offset by higher farmland values, so that the average tax per $100 of full market value on U.S. farm real estate declined slightly from $.77 in 1988 to $.76 in 1989 (table 21).

Compared with a year ago, average taxes per acre were higher in 37 States and lower in 12. Taxes per $100 of full market value were higher in 15 States, lower in 25, and unchanged in 9.

Taxes varied widely among States. For example, 1989 average taxes per acre ranged from $.42 in Arizona to $48.23 in Rhode Island. State taxes also varied within regions. In the Corn Belt, for example, taxes per acre ranged from $2.43 in Missouri to $15.94 in Illinois (table 20 and figure 9). Similarly, taxes in the Southeast ranged from $1.27 in Alabama to $10.94 in Florida. Taxes per $100 of full market value ranged from $.07 in Delaware to $3.29 in Michigan. Within the Mountain region, taxes ranged from $.22 in New Mexico to $1.97 in Arizona (table 21 and figure 10).

[1/] Alaska has been excluded from the farm real estate tax data because of difficulties in determining the amount of privately owned taxable farmland in the State.

Variations across the country are partly due to (1) the degree that States rely on real estate taxes as sources of local revenue, rather than income or sales taxes; and (2) the extent that States provide property tax relief, such as preferential land-use assessments, homestead exemptions, veterans' preferences, and so forth.

Background on Tax Data

The tax data represent estimates of real property taxes on farm and ranch land and buildings levied by State and local governments. Special assessments for improvements, such as drainage and irrigation, are excluded. The data were obtained from a nationwide survey of approximately 4,200 taxing officials who provided tax and acreage information on 10 farm or ranch parcels in each jurisdiction for the current and preceding years. Respondents in jurisdictions with fewer than 10 parcels were requested to provide information on all parcels. For 1989, the response rate from the 4,200 jurisdictions was about 67 percent.

To expand the survey data to State and national estimates, the Economic Research Service (ERS) uses Census of Agriculture data on acres of land in farms and farmland values. For noncensus years, these data are adjusted based on the percentage change of land in farms reported by the National Agricultural Statistics Service and by ERS's annual estimates of farm real estate values.

Taxes for 1980-1986 have been revised to reflect changes in the number of acres of land in farms and farmland values, as provided in the 1987 Census of Agriculture. The revisions, however, are relatively minor. For example, revisions to the previously published 1980 U.S. taxes show declines of less than 0.3 percent for total taxes, 0.5 percent for taxes per acre, and 2 percent for taxes per $100 of full market value. [J. Peter DeBraal]

Figure
U.S. Farm Real Estate Taxes

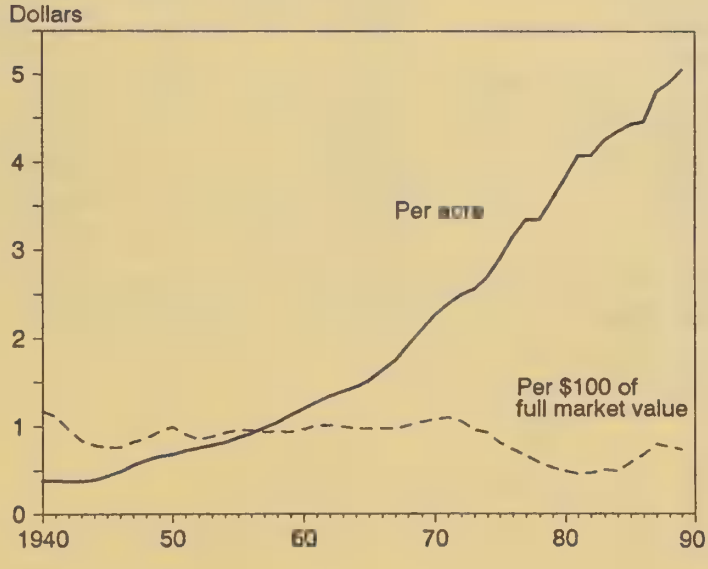


Table 18.--U.S. agricultural landholdings of foreign owners, by State, December 31, 1990

State	Total land area of State 1/	Privately owned agricultural land 2/	Foreign-owned agricultural land	Proportion of foreign-owned to privately owned agricultural land
	Thousand acres		Acres	Percent
Northeast:				
Maine	19,837	18,065	3,001,062	16.6
New Hampshire	5,756	4,251	220,207	5.2
Vermont	5,935	5,153	122,738	2.4
Massachusetts	5,008	2,664	1,934	.1
Rhode Island	675	439	0	0
Connecticut	3,118	1,884	1,074	NEG.
New York	30,321	21,893	264,274	1.2
New Jersey	4,779	2,438	21,587	.9
Pennsylvania	28,728	21,518	58,490	.3
Delaware	1,237	972	5,870	.6
Maryland	6,296	4,510	50,745	1.1
Lake States:				
Michigan	36,451	25,742	202,908	.8
Wisconsin	34,833	26,729	24,433	.1
Minnesota	50,911	36,343	220,644	.6
Corn Belt:				
Ohio	26,243	22,519	172,303	.8
Indiana	22,996	20,493	60,499	.3
Illinois	35,613	31,633	146,279	.5
Iowa	35,818	33,582	31,310	.1
Missouri	44,125	39,289	61,130	.2
Northern Plains:				
North Dakota	44,352	39,211	30,851	.1
South Dakota	48,609	39,556	42,882	.1
Nebraska	49,052	45,444	76,471	.2
Kansas	52,338	49,780	73,329	.1
Appalachia:				
Virginia	25,410	20,963	118,653	.6
West Virginia	15,436	13,531	76,312	.6
North Carolina	31,260	26,392	229,225	.9
Kentucky	25,388	22,578	84,254	.4
Tennessee	26,339	21,873	168,410	.8
Southeast:				
South Carolina	19,330	15,851	186,956	1.2
Georgia	37,156	32,338	568,360	1.8
Florida	34,658	23,975	562,752	2.3
Alabama	32,491	28,620	395,629	1.4
Delta States:				
Mississippi	30,229	26,713	461,830	1.7
Arkansas	33,330	27,981	179,283	.6
Louisiana	28,494	24,523	678,919	2.8
Southern Plains:				
Oklahoma	43,939	38,500	29,705	.1
Texas	167,691	154,417	1,059,539	.7
Mountain:				
Montana	93,048	53,052	508,806	1.0
Idaho	52,744	15,256	22,966	.2
Wyoming	62,073	24,459	126,196	.5
Colorado	66,301	36,618	539,871	1.5
New Mexico	77,654	35,705	855,266	2.4
Arizona	72,645	10,502	329,527	3.1
Utah	52,527	11,892	88,927	.7
Nevada	70,332	8,248	173,200	2.1
Pacific:				
Washington	42,567	22,530	373,725	1.7
Oregon	61,558	28,022	649,407	2.3
California	100,031	44,042	911,645	2.1
Hawaii	4,112	1,998	173,767	8.7
Alaska	365,333	500	416	.1
50 States	2,265,242	1,265,272	14,445,741	1.1

1/ 1980 land area from Geography Division, Census Bureau. 2/ Privately held land based on A. Daugherty, unpublished data, Econ. Res. Serv., US Dept. Agr., 1987. Estimate of total land less public, Indian, transportation, and urban land. Includes forest land, pastureland, cropland, range, and miscellaneous uses.

NEG = Negligible

Table 19.--Total taxes levied on farm real estate, by States, 1980-89 1/

State	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
	Million dollars									
Northeast:										
Maine	9.4	9.8	10.0	10.1	10.3	10.1	10.8	10.4	11.4	11.6
New Hampshire	5.0	5.2	5.4	5.7	5.9	6.1	6.5	6.7	8.0	7.9
Vermont	12.5	14.2	13.0	14.7	15.5	15.2	16.1	16.8	17.2	18.7
Massachusetts	12.4	12.1	11.6	11.8	12.4	13.5	14.2	13.1	16.2	15.3
Rhode Island	1.8	2.1	2.2	2.4	2.3	2.5	2.6	2.4	2.6	2.8
Connecticut	7.8	8.3	8.8	9.5	9.6	10.1	10.3	9.3	10.1	9.7
New York	118.5	136.8	142.8	151.7	153.3	150.6	151.6	134.2	141.7	147.6
New Jersey	19.4	21.3	23.4	24.5	25.2	25.9	26.7	28.4	30.5	31.4
Pennsylvania	68.3	76.4	81.1	87.7	93.0	99.1	103.7	104.9	112.0	123.0
Delaware	1.2	1.1	1.1	1.1	1.1	1.0	1.0	0.8	0.8	0.8
Maryland	17.7	19.1	19.6	20.7	21.6	21.5	21.4	21.2	21.3	21.9
Lake States:										
Michigan	177.8	212.6	232.9	243.9	253.4	261.1	261.3	311.3	314.9	325.8
Wisconsin	209.1	236.6	224.7	238.2	243.9	238.0	229.3	238.3	258.0	272.7
Minnesota	127.4	144.5	160.2	173.1	175.2	162.2	146.7	159.9	155.2	162.1
Corn Belt:										
Ohio	127.3	127.2	127.1	128.9	130.7	134.0	137.2	144.9	148.5	142.6
Indiana	117.7	119.3	119.0	120.3	120.9	122.9	124.0	111.8	117.0	122.5
Illinois	376.6	408.9	398.9	395.6	390.6	384.8	384.7	494.3	474.7	451.8
Iowa	310.2	335.8	278.0	282.8	294.8	299.7	305.9	333.2	323.2	353.6
Missouri	84.8	84.0	83.1	71.3	66.3	69.8	70.1	67.5	68.6	70.3
Northern Plains:										
North Dakota	79.4	78.2	83.2	84.0	89.4	89.1	89.3	77.4	77.6	79.8
South Dakota	97.9	98.7	95.8	102.7	106.5	105.1	106.6	102.7	105.6	104.8
Nebraska	218.0	233.7	238.5	242.8	252.0	256.6	241.3	261.2	274.4	290.8
Kansas	122.1	124.3	121.6	130.8	125.1	132.1	132.8	121.6	131.7	118.1
Appalachia:										
Virginia	34.6	37.2	38.5	40.0	41.1	41.7	43.6	44.5	50.2	55.3
West Virginia	2.7	3.2	3.3	3.3	3.1	3.0	3.2	3.3	3.4	3.5
North Carolina	41.5	43.4	43.1	45.0	45.9	46.6	47.6	50.0	51.7	52.0
Kentucky	29.4	30.1	29.5	30.1	31.1	31.2	31.8	33.6	32.7	32.2
Tennessee	40.6	41.9	41.9	43.6	44.5	46.0	45.9	46.1	47.1	46.2
Southeast:										
South Carolina	12.2	13.1	12.9	13.0	12.6	13.0	13.9	13.1	14.4	15.1
Georgia	49.0	52.5	50.5	51.0	49.9	50.2	49.4	48.7	52.6	54.8
Florida	78.4	86.6	80.3	83.2	82.4	85.7	92.4	101.4	107.2	113.7
Alabama	9.9	9.6	12.6	11.5	11.2	11.1	10.6	10.5	11.0	11.4
Delta States:										
Mississippi	20.8	20.6	20.1	19.6	21.8	21.8	20.3	19.4	19.8	21.3
Arkansas	30.9	31.3	33.5	34.7	35.3	38.8	37.9	39.5	40.0	40.6
Louisiana	15.7	16.0	18.6	18.9	19.1	19.6	20.4	19.0	19.2	19.6
Southern Plains:										
Oklahoma	48.7	48.0	49.9	50.4	49.7	49.6	49.2	55.3	54.7	55.4
Texas	191.8	199.0	210.2	224.5	229.6	235.3	244.8	307.9	304.6	320.3
Mountain:										
Montana	63.6	64.2	66.2	69.6	72.4	78.7	80.8	84.1	85.3	88.3
Idaho	32.9	30.6	32.2	36.2	36.3	37.7	38.6	41.1	39.2	41.7
Wyoming	15.5	16.2	16.7	17.7	17.1	17.0	16.4	16.7	16.8	16.2
Colorado	43.4	45.1	45.9	53.4	61.0	62.1	58.7	59.3	61.6	67.1
New Mexico	7.3	7.0	7.1	7.3	7.4	7.8	8.4	10.9	10.9	12.9
Arizona	22.7	22.5	23.9	27.6	28.3	30.0	32.6	40.7	40.7	45.5
Utah	12.9	13.5	14.4	15.2	14.9	14.2	14.3	11.9	12.1	11.7
Nevada	3.8	2.4	2.7	2.9	3.1	3.0	3.1	3.0	3.5	3.6
Pacific:										
Washington	47.2	48.4	49.4	50.9	53.2	54.7	55.5	60.2	60.2	60.8
Oregon	52.7	58.4	58.7	60.3	62.9	65.1	67.3	72.7	76.2	82.3
California	203.4	216.4	222.5	234.8	245.2	258.6	239.5	247.0	245.8	240.0
Hawaii	7.3	8.8	8.7	21.7	22.0	21.2	20.9	21.2	21.8	25.0
United States 2/	3,441.9	3,678.2	3,678.4	3,823.9	3,905.3	3,961.4	3,948.6	4,233.5	4,304.2	4,422.4

1/ Data for 1980-86 have been revised to reflect the changes in land in farms and land values from the 1987 Census of Agriculture.
2/ Excludes Alaska.

Figure 9

Farm Real Estate Taxes, Average Per Acre, 1989

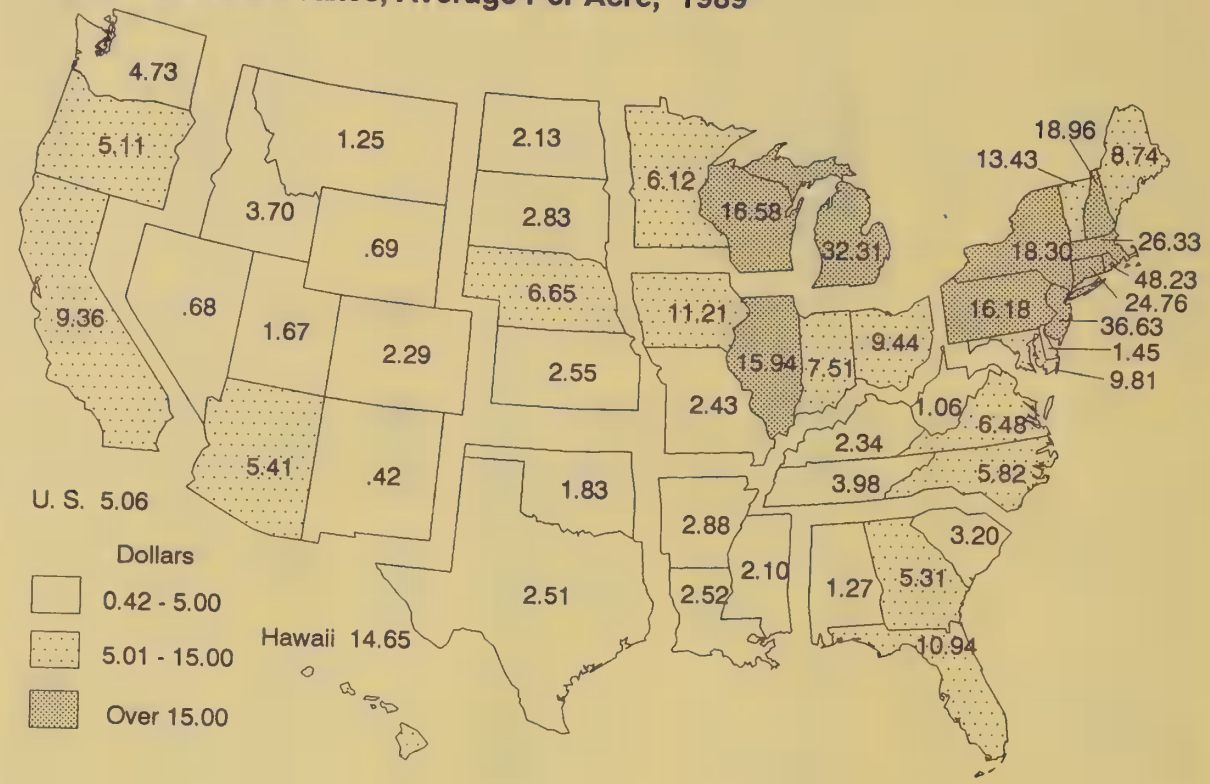


Figure 10

Farm Real Estate Taxes Per $100 of Full Market Value, 1989

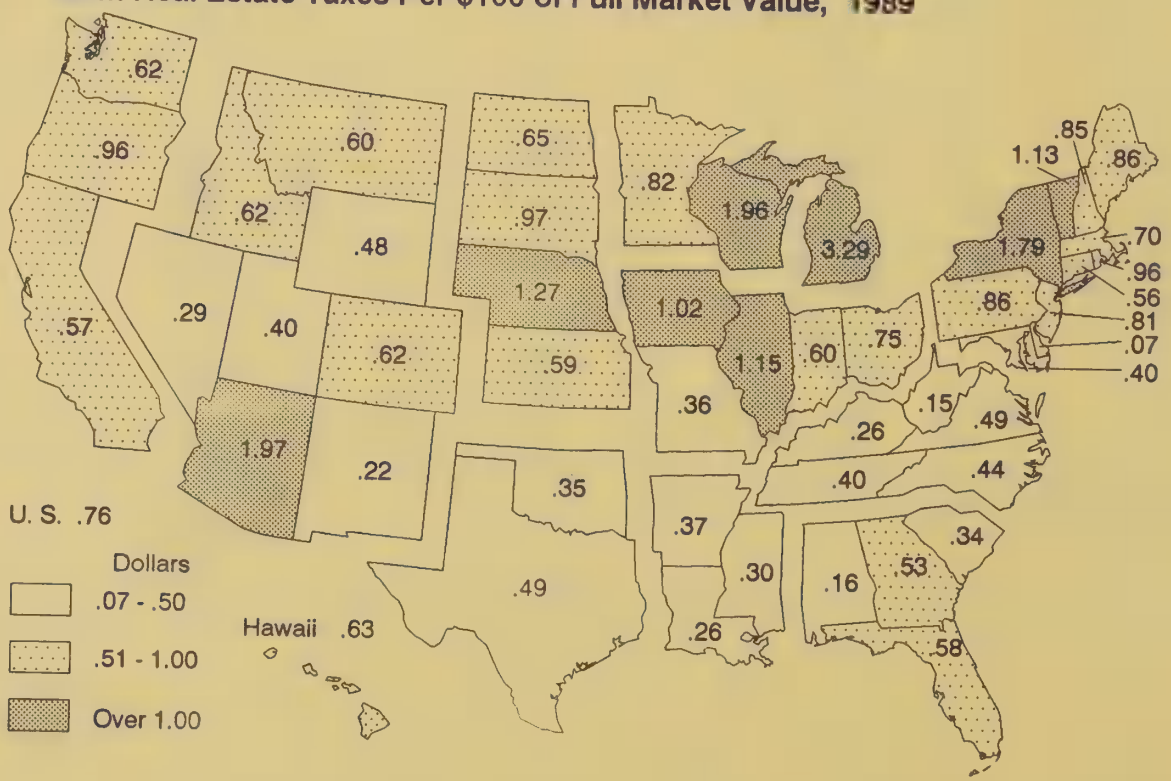


Table 20.--Taxes levied on farm real estate: Average tax per acre, by States, 1980-89 1/

State	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
					Dollars					
Northeast:										
Maine	6.16	6.56	6.90	7.10	7.30	7.44	8.01	7.80	8.53	8.74
New Hampshire	9.78	10.71	11.71	12.55	13.08	14.01	15.45	16.39	19.06	18.96
Vermont	7.83	8.72	8.54	9.71	10.29	10.80	11.46	12.01	12.38	13.43
Massachusetts	21.52	21.17	20.88	21.38	21.98	23.66	24.52	22.16	27.95	26.33
Rhode Island	30.84	33.88	35.85	39.83	41.15	43.41	44.96	42.41	44.95	48.23
Connecticut	19.51	20.07	21.53	22.55	23.39	24.48	26.50	23.88	25.86	24.76
New York	13.69	15.23	16.10	17.00	17.24	17.37	18.18	16.04	17.14	18.30
New Jersey	20.48	22.02	23.86	25.15	26.08	27.30	29.03	32.37	35.53	36.63
Pennsylvania	8.86	9.88	10.49	11.38	11.97	12.65	13.45	13.48	14.57	16.18
Delaware	2.01	1.86	1.82	1.72	1.73	1.74	1.79	1.39	1.37	1.45
Maryland	6.78	7.13	7.45	7.97	8.33	8.62	8.86	8.93	9.37	9.81
Lake States:										
Michigan	17.75	20.94	22.84	23.83	24.65	25.30	25.41	30.31	30.94	32.31
Wisconsin	12.28	13.82	13.13	14.10	14.55	14.41	13.90	14.40	15.59	16.58
Minnesota	4.66	5.24	5.83	6.32	6.43	5.99	5.52	6.04	5.86	6.12
Corn Belt:										
Ohio	8.35	8.33	8.35	8.52	8.68	8.89	9.08	9.71	9.95	9.44
Indiana	7.11	7.16	7.08	7.24	7.39	7.51	7.57	6.94	7.17	7.51
Illinois	13.09	14.22	13.94	13.83	13.67	13.48	13.49	17.38	16.69	15.94
Iowa	9.83	10.29	8.59	8.78	9.22	9.41	9.65	10.56	10.24	11.21
Missouri	2.86	2.83	2.81	2.40	2.25	2.38	2.40	2.32	2.37	2.43
Northern Plains:										
North Dakota	1.99	1.98	2.12	2.15	2.29	2.31	2.34	2.06	2.07	2.13
South Dakota	2.54	2.59	2.53	2.72	2.83	2.80	2.85	2.77	2.85	2.83
Nebraska	4.90	5.25	5.38	5.49	5.74	5.84	5.50	5.96	6.27	6.65
Kansas	2.59	2.63	2.58	2.77	2.68	2.84	2.86	2.62	2.84	2.55
Appalachia:										
Virginia	3.83	4.15	4.31	4.48	4.67	4.80	5.04	5.16	5.83	6.48
West Virginia	0.78	0.87	0.91	0.93	0.93	0.93	0.95	0.99	1.01	1.06
North Carolina	3.83	4.14	4.28	4.56	4.69	4.91	5.05	5.33	5.62	5.82
Kentucky	2.10	2.15	2.13	2.16	2.23	2.24	2.28	2.41	2.36	2.34
Tennessee	3.22	3.35	3.39	3.52	3.60	3.72	3.84	3.97	4.06	3.98
Southeast:										
South Carolina	2.12	2.32	2.37	2.46	2.46	2.59	2.83	2.79	3.06	3.20
Georgia	3.46	3.80	3.84	4.07	4.15	4.29	4.41	4.57	4.93	5.31
Florida	6.34	7.22	6.93	7.35	7.41	7.79	8.47	9.34	10.04	10.94
Alabama	0.90	0.90	1.20	1.14	1.13	1.14	1.15	1.16	1.23	1.27
Delta States:										
Mississippi	1.60	1.63	1.63	1.65	1.88	1.92	1.87	1.85	1.93	2.10
Arkansas	2.14	2.18	2.31	2.37	2.41	2.65	2.64	2.79	2.83	2.88
Louisiana	1.79	1.83	2.13	2.21	2.24	2.32	2.46	2.39	2.47	2.52
Southern Plains:										
Oklahoma	1.56	1.55	1.62	1.63	1.64	1.64	1.63	1.83	1.81	1.83
Texas	1.47	1.53	1.61	1.72	1.75	1.81	1.90	2.41	2.39	2.51
Mountain:										
Montana	1.20	1.16	1.13	1.14	1.14	1.21	1.18	1.19	1.21	1.25
Idaho	2.77	2.60	2.71	3.04	3.06	3.19	3.33	3.63	3.48	3.70
Wyoming	0.63	0.66	0.68	0.72	0.71	0.71	0.69	0.71	0.71	0.69
Colorado	1.40	1.45	1.50	1.77	2.02	2.06	1.96	1.99	2.09	2.29
New Mexico	0.23	0.23	0.22	0.23	0.24	0.26	0.28	0.36	0.36	0.42
Arizona	2.30	2.36	2.59	3.03	3.19	3.45	3.81	4.70	4.77	5.41
Utah	1.71	1.80	1.92	2.04	2.01	2.02	2.06	1.69	1.72	1.67
Nevada	0.63	0.42	0.47	0.52	0.55	0.56	0.57	0.57	0.66	0.68
Pacific:										
Washington	3.55	3.61	3.69	3.85	4.09	4.22	4.32	4.69	4.69	4.73
Oregon	3.24	3.60	3.59	3.69	3.85	3.99	4.16	4.49	4.73	5.11
California	7.36	7.69	7.84	8.21	8.50	8.88	9.28	9.46	9.50	9.36
Hawaii	3.46	4.21	4.13	11.07	11.26	10.89	10.70	10.88	12.74	14.65
United States 2/	3.83	4.08	4.08	4.26	4.36	4.44	4.47	4.82	4.92	5.06

1/ Data for 1980-86 have been revised to reflect the changes in land in farms and land values from the 1987 Census of Agriculture.
2/ Excludes Alaska.

Table 21.--Taxes levied on farm real estate: Amount per $100 of full-market value, by States, 1980-89 1/

State	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
						Dollars				
Northeast:										
Maine	1.08	1.11	1.14	1.08	1.07	0.99	0.94	0.88	0.89	0.86
New Hampshire	0.97	0.99	1.03	1.03	1.11	0.94	0.91	0.89	0.90	0.85
Vermont	1.12	1.20	1.15	1.22	1.24	1.17	1.10	1.08	1.10	1.13
Massachusetts	1.38	1.29	1.22	1.08	1.05	1.00	0.89	0.74	0.79	0.70
Rhode Island	1.24	1.32	1.37	1.56	1.56	1.49	1.38	1.25	0.95	0.96
Connecticut	0.82	0.81	0.85	0.89	0.88	0.82	0.78	0.67	0.62	0.56
New York	1.93	2.02	2.03	2.06	2.02	2.12	2.17	1.67	1.73	1.79
New Jersey	0.74	0.80	0.86	0.92	0.97	0.96	0.97	0.87	0.90	0.81
Pennsylvania	0.64	0.71	0.83	0.80	0.79	0.91	1.02	0.88	0.92	0.86
Delaware	0.11	0.10	0.12	0.09	0.10	0.10	0.11	0.08	0.08	0.07
Maryland	0.29	0.27	0.29	0.36	0.35	0.37	0.43	0.44	0.41	0.40
Lake States:										
Michigan	1.59	1.62	1.79	1.77	1.79	2.13	2.38	3.23	3.19	3.29
Wisconsin	1.18	1.10	1.00	0.96	1.02	1.29	1.53	1.85	1.89	1.96
Minnesota	0.42	0.38	0.42	0.44	0.48	0.58	0.74	1.03	0.84	0.82
Corn Belt:										
Ohio	0.48	0.45	0.52	0.50	0.51	0.69	0.78	0.89	0.83	0.75
Indiana	0.36	0.31	0.33	0.35	0.33	0.47	0.61	0.65	0.62	0.60
Illinois	0.64	0.63	0.67	0.68	0.67	0.91	1.04	1.51	1.32	1.15
Iowa	0.53	0.51	0.45	0.48	0.56	0.82	1.08	1.34	1.08	1.02
Missouri	0.31	0.28	0.29	0.25	0.22	0.32	0.36	0.38	0.37	0.36
Northern Plains:										
North Dakota	0.47	0.44	0.45	0.44	0.47	0.58	0.67	0.68	0.65	0.65
South Dakota	0.81	0.74	0.69	0.57	0.59	0.82	0.99	1.16	1.06	0.97
Nebraska	0.75	0.68	0.70	0.57	0.68	1.05	1.24	1.49	1.37	1.27
Kansas	0.43	0.40	0.38	0.38	0.35	0.51	0.65	0.70	0.69	0.59
Appalachia:										
Virginia	0.38	0.38	0.40	0.39	0.41	0.43	0.42	0.45	0.49	0.49
West Virginia	0.11	0.12	0.11	0.13	0.14	0.17	0.17	0.19	0.15	0.15
North Carolina	0.31	0.29	0.30	0.32	0.30	0.35	0.39	0.42	0.44	0.44
Kentucky	0.22	0.21	0.20	0.20	0.20	0.23	0.23	0.27	0.26	0.26
Tennessee	0.34	0.33	0.36	0.36	0.36	0.40	0.41	0.42	0.41	0.40
Southeast:										
South Carolina	0.24	0.25	0.26	0.26	0.27	0.29	0.33	0.35	0.35	0.34
Georgia	0.40	0.40	0.45	0.43	0.44	0.48	0.51	0.51	0.54	0.53
Florida	0.46	0.46	0.46	0.44	0.43	0.47	0.44	0.58	0.56	0.58
Alabama	0.11	0.10	0.13	0.14	0.13	0.14	0.14	0.15	0.15	0.16
Delta States:										
Mississippi	0.20	0.15	0.16	0.18	0.19	0.22	0.23	0.27	0.28	0.30
Arkansas	0.22	0.20	0.19	0.22	0.23	0.27	0.34	0.39	0.37	0.37
Louisiana	0.13	0.10	0.11	0.13	0.13	0.14	0.13	0.26	0.26	0.26
Southern Plains:										
Oklahoma	0.25	0.22	0.21	0.21	0.20	0.26	0.31	0.39	0.38	0.35
Texas	0.32	0.30	0.26	0.29	0.25	0.24	0.30	0.44	0.44	0.49
Mountain:										
Montana	0.50	0.44	0.40	0.37	0.34	0.44	0.48	0.59	0.59	0.60
Idaho	0.38	0.34	0.35	0.37	0.38	0.44	0.53	0.66	0.61	0.62
Wyoming	0.37	0.37	0.39	0.38	0.39	0.44	0.51	0.54	0.48	0.48
Colorado	0.35	0.32	0.32	0.34	0.36	0.39	0.45	0.45	0.57	0.62
New Mexico	0.10	0.09	0.09	0.10	0.10	0.12	0.16	0.23	0.20	0.22
Arizona	0.42	0.51	0.63	0.79	0.89	1.08	1.36	1.57	1.71	1.97
Utah	0.25	0.26	0.28	0.32	0.32	0.36	0.40	0.37	0.41	0.40
Nevada	0.18	0.11	0.12	0.17	0.18	0.21	0.26	0.24	0.29	0.29
Pacific:										
Washington	0.43	0.38	0.38	0.38	0.39	0.43	0.51	0.62	0.63	0.62
Oregon	0.54	0.54	0.53	0.46	0.49	0.61	0.71	0.83	0.87	0.96
California	0.49	0.41	0.38	0.40	0.41	0.47	0.52	0.61	0.60	0.57
Hawaii	0.33	0.36	0.37	0.75	0.75	0.76	0.76	0.72	0.66	0.63
United States 2/	0.49	0.46	0.47	0.51	0.49	0.59	0.68	0.80	0.77	0.76

1/ Data for 1980-86 have been revised to reflect the changes in land in farms and land values from the 1987 Census of Agriculture.
2/ Excludes Alaska.

List of Tables

Appendix table 1.--Total value of farmland and buildings, by State, 1984-91 1/

State	As of April 1		As of February 1				As of January 1	
	1984	1985	1986	1987	1988	1989	1990	1991
	Million dollars							
Northeast:	38,193	36,184	35,221	38,408	40,271	44,105	42,724	42,163
Maine	1,091	1,153	1,273	1,284	1,395	1,478	1,478	1,418
New Hampshire	677	777	875	923	1,077	1,119	1,096	1,053
Vermont	1,465	1,515	1,695	1,704	1,708	1,797	1,797	1,724
Massachusetts	1,437	1,616	1,905	2,078	2,416	2,559	2,559	2,456
Rhode Island	202	218	240	247	347	367	357	343
Connecticut	1,307	1,442	1,518	1,565	1,835	1,943	1,855	1,781
New York	7,975	7,464	7,503	8,350	8,540	8,602	8,182	8,660
New Jersey	2,900	2,833	2,758	3,356	3,493	3,998	4,032	4,273
Pennsylvania	13,887	12,416	11,322	12,939	13,106	15,367	14,637	14,232
Delaware	1,214	1,037	1,078	1,040	1,041	1,214	1,288	1,281
Maryland	6,038	5,711	5,057	4,921	5,313	5,663	5,445	4,941
Lake States:	68,448	56,733	46,939	41,530	46,204	47,856	49,137	52,921
Michigan	14,183	12,517	11,230	10,164	10,584	10,616	10,854	11,718
Wisconsin	19,876	16,905	14,889	13,761	14,620	14,890	14,133	15,013
Minnesota	34,389	27,311	20,821	17,605	21,000	22,350	24,150	26,190
Corn Belt:	181,813	138,786	121,672	111,988	125,033	136,973	136,325	140,435
Ohio	23,701	19,203	17,944	17,115	18,704	19,813	18,903	19,107
Indiana	27,012	22,049	19,144	17,194	18,991	20,402	20,277	20,783
Illinois	52,965	39,647	35,354	32,865	36,093	39,416	39,587	40,841
Iowa	50,996	36,653	29,330	26,334	31,725	36,884	36,917	38,760
Missouri	27,139	21,234	19,901	18,479	19,520	20,459	20,642	20,946
Northern Plains:	93,578	74,464	65,034	59,613	66,176	71,543	76,348	79,022
North Dakota	18,320	15,253	13,638	12,319	12,951	13,203	13,770	14,904
South Dakota	16,176	12,856	11,900	10,548	11,917	12,870	14,543	15,561
Nebraska	30,445	22,911	19,629	18,886	21,525	24,633	25,905	26,188
Kansas	28,637	23,443	19,866	17,861	19,783	20,837	22,130	22,369
Appalachia:	57,984	53,624	52,591	50,500	51,860	53,328	54,194	51,711
Virginia	10,908	10,566	10,963	10,497	10,902	11,997	13,492	11,526
West Virginia	2,654	2,186	2,281	2,343	2,523	2,599	2,268	2,313
North Carolina	15,715	14,373	13,542	13,220	13,009	13,170	12,251	12,057
Kentucky	14,989	13,849	13,646	12,649	12,813	12,936	13,832	13,564
Tennessee	13,718	12,650	12,160	11,790	12,613	12,625	12,350	12,251
Southeast:	47,417	45,182	43,173	42,933	45,641	47,399	48,745	48,764
South Carolina	5,188	4,939	4,699	4,197	4,616	4,977	4,727	4,930
Georgia	12,437	11,968	11,345	11,554	11,960	12,575	12,650	12,438
Florida	20,402	19,346	18,293	18,775	20,585	21,134	22,727	23,250
Alabama	9,390	8,929	8,837	8,407	8,480	8,713	8,642	8,147
Delta States:	43,073	40,270	34,755	29,448	29,987	30,379	29,324	29,882
Mississippi	13,488	12,054	10,898	9,451	9,410	9,483	9,464	9,802
Arkansas	15,430	14,425	12,301	11,434	12,024	12,215	11,625	11,935
Louisiana	14,155	13,791	11,556	8,564	8,554	8,681	8,235	8,145
Southern Plains:	107,353	113,715	96,721	88,351	87,648	85,173	81,741	79,530
Oklahoma	23,680	19,691	17,173	15,686	15,840	17,193	16,401	16,038
Texas	83,673	94,025	79,548	72,664	71,808	67,980	65,340	63,492
Mountain:	81,508	74,344	65,643	63,010	62,847	63,256	64,802	69,623
Montana	16,867	14,800	14,203	12,138	12,444	12,665	14,399	14,702
Idaho	11,884	10,711	8,958	7,612	7,836	8,152	9,056	9,028
Wyoming	6,923	6,287	5,518	5,464	5,116	4,942	5,185	5,324
Colorado	16,237	15,042	12,310	12,512	12,435	12,295	11,850	13,571
New Mexico	8,869	8,324	7,199	6,974	8,010	8,500	8,722	10,235
Arizona	11,665	11,062	10,076	11,071	10,184	9,864	9,468	10,260
Utah	6,728	5,947	5,426	5,101	4,803	4,757	4,396	4,554
Nevada	2,335	2,171	1,952	2,138	2,020	2,083	1,727	1,949
Pacific:	93,562	86,094	79,355	71,329	71,242	73,499	75,111	78,185
Washington	15,645	15,187	13,433	12,095	11,824	12,112	12,464	12,768
Oregon	12,949	11,077	10,211	9,676	9,648	9,523	10,164	10,377
California	64,967	59,829	55,711	49,559	49,770	51,864	52,483	55,040
48 States	812,929	719,398	641,104	597,110	626,909	653,511	658,451	672,235

1/ Current dollars. Total values are estimated by multiplying per acre values times acres of land in farms. Total values for 1989 and 1990 have been revised following revisions of per acre values and land in farms.

Appendix table 2.--Average per farm value of farmland and buildings, by State, 1984-91 1/

State	As of April 1		As of February 1				As of January 1	
	1984	1985	1986	1987	1988	1989	1990	1991
	Dollars							
Northeast:	230,676	223,955	222,822	247,365	263,953	296,069	291,493	287,662
Maine	141,740	153,756	167,500	175,872	191,082	202,404	202,404	194,260
New Hampshire	199,010	228,599	273,341	288,539	336,600	360,806	365,377	350,840
Vermont	200,626	210,440	238,765	240,054	240,631	256,700	256,700	246,346
Massachusetts	221,143	248,690	280,147	305,618	350,151	370,846	370,846	355,965
Rhode Island	262,647	283,454	311,334	321,290	450,135	476,681	463,621	445,087
Connecticut	311,227	351,767	370,145	391,322	458,810	485,870	475,677	456,615
New York	169,684	169,635	174,479	198,798	208,288	220,554	212,509	224,945
New Jersey	311,814	311,349	313,366	394,880	420,810	481,667	497,726	527,585
Pennsylvania	239,428	214,075	200,386	231,057	238,285	284,570	276,164	268,523
Delaware	337,272	296,344	336,731	335,380	347,117	404,740	444,010	441,848
Maryland	339,190	326,348	297,446	298,238	332,084	362,987	358,224	325,066
Lake States:	278,243	236,388	200,595	180,566	200,887	211,752	220,344	237,313
Michigan	225,122	205,202	190,331	178,311	188,998	193,025	201,000	217,000
Wisconsin	231,118	203,675	181,576	169,892	178,295	183,822	176,660	187,660
Minnesota	354,526	284,486	223,877	191,360	228,261	248,333	271,348	294,270
Corn Belt:	365,822	284,398	254,013	240,317	269,468	299,723	304,978	314,172
Ohio	263,349	215,764	203,907	203,748	220,052	230,388	225,033	227,463
Indiana	329,420	272,213	245,430	232,358	256,638	287,346	298,194	305,625
Illinois	551,719	426,311	388,500	369,274	410,150	458,320	476,946	492,054
Iowa	451,289	330,210	269,082	246,111	296,491	351,271	354,971	372,688
Missouri	233,956	186,262	176,118	164,995	177,455	187,699	191,126	193,941
Northern Plains:	450,977	367,723	327,625	301,075	338,494	367,829	391,528	405,241
North Dakota	516,062	448,628	407,117	367,727	386,609	394,119	405,000	438,353
South Dakota	437,177	352,220	330,554	297,115	340,477	367,715	415,518	444,605
Nebraska	499,096	381,855	332,700	320,098	371,116	432,163	454,474	459,432
Kansas	386,989	325,601	283,798	255,152	286,706	301,978	320,722	324,193
Appalachia:	164,262	154,983	156,521	153,029	159,568	167,171	174,538	166,539
Virginia	194,783	195,663	214,953	214,234	227,121	255,255	293,313	250,554
West Virginia	120,627	104,096	108,599	111,589	120,162	123,767	110,639	112,805
North Carolina	198,930	189,125	185,501	188,853	191,307	202,615	197,598	194,469
Kentucky	148,407	138,488	137,843	127,765	132,091	136,171	148,732	145,852
Tennessee	144,402	133,159	132,174	129,563	138,600	138,738	138,769	137,654
Southeast:	275,683	268,144	260,081	263,391	278,301	293,493	301,827	301,945
South Carolina	185,273	179,606	174,041	161,409	177,550	195,165	192,931	201,208
Georgia	243,871	239,352	231,521	240,708	244,082	261,975	258,163	253,827
Florida	510,049	496,054	469,058	469,378	502,073	515,473	554,305	567,066
Alabama	177,179	171,717	173,265	171,571	176,667	185,387	183,866	173,347
Delta States:	308,769	298,297	267,344	232,794	241,833	246,983	242,347	246,959
Mississippi	269,765	251,129	236,915	214,788	224,036	231,290	236,600	245,050
Arkansas	280,546	272,164	246,020	233,351	245,384	254,471	247,340	253,936
Louisiana	410,289	405,624	339,872	255,629	259,212	255,335	242,206	239,559
Southern Plains:	402,070	430,740	369,163	341,123	341,043	332,707	319,301	310,664
Oklahoma	324,384	273,481	238,507	220,936	226,286	245,614	234,300	229,114
Texas	431,302	489,713	418,674	386,513	384,000	365,484	351,290	341,355
Mountain:	657,323	601,004	533,679	516,898	518,113	525,822	545,013	585,561
Montana	696,966	609,069	582,108	495,430	505,833	512,769	582,955	595,202
Idaho	483,003	435,386	373,257	330,974	348,284	368,846	415,399	414,142
Wyoming	760,750	698,574	613,156	620,905	574,787	555,236	582,607	598,247
Colorado	601,372	563,369	462,773	463,401	455,505	455,352	447,162	512,113
New Mexico	633,503	594,602	514,198	498,110	572,143	607,107	646,074	758,148
Arizona	1,405,443	1,301,455	1,171,577	1,317,923	1,257,222	1,217,778	1,213,846	1,315,385
Utah	480,595	427,811	396,077	375,104	361,090	365,946	333,008	344,992
Nevada	833,987	803,999	723,037	822,383	777,038	833,040	690,640	779,640
Pacific:	595,934	544,898	502,248	451,451	449,474	462,258	473,886	493,281
Washington	411,717	399,668	353,503	318,279	311,158	318,737	336,865	345,081
Oregon	349,985	299,377	275,967	261,504	264,318	257,378	278,460	284,312
California	792,280	720,837	671,220	597,097	592,500	617,430	617,449	647,525
48 States	349,111	314,522	285,624	270,471	286,016	301,815	307,980	314,427

1/ Current dollars. Average per farm value is estimated by dividing total value of farmland by the number of farms.

Appendix table 3.--U.S. agricultural landholdings by country of foreign owner, December 31, 1990

Country	Acres	Country	Acres
Argentina	12,973	Liberia	30,024
Australia	3,319	Liechtenstein	144,566
Austria	55,889	Luxembourg	6,485
Bahamas	34,894	Malaysia	7,948
Bahrain	553	Mexico	159,399
Barbados	117	Montserrat	145
Belgium	63,372	Morocco	1,035
Belize	549	Namibia	197
Bermuda	72,981	Netherlands	127,208
Bolivia	11	Netherlands Antilles	363,035
Brazil	1,161	New Zealand	463
British Virgin Islands	70,221	Nicaragua	1,378
Canada	1,979,913	Nigeria	14
Cayman Islands	23,224	Norway	5,526
Chile	1,556	Oman	454
China	496	Pakistan	2,171
Colombia	8,722	Panama	192,630
Costa Rica	13,419	Peru	278
Cuba	20	Philippines	3,820
Czechoslovakia	485	Poland	147
Denmark	9,682	Portugal	816
Dominican Republic	2,128	St. Vincent	2,637
Ecuador	981	Saudi Arabia	38,528
Egypt	2,134	Singapore	568
El Salvador	309	Somalia	11
Finland	218	South Africa	1,940
France	87,883	Southern Rhodesia	230
Gambia	294	Spain	2,162
Germany	729,924	Sweden	28,983
Greece	57,423	Switzerland	296,796
Guatemala	1,055	Syria	4,706
Guyana	35	Taiwan	11,281
Honduras	892	Tanzania	10,143
Hong Kong	18,200	Thailand	240
Hungary	110	Trinidad & Tobago	131
India	1,687	Turkey	558
Indonesia	804	Turks Islands	3,192
Iran	2,623	United Arab Emirates	3,702
Ireland	10,705	United Kingdom	311,306
Israel	1,067	Uruguay	11,370
Italy	83,243	U.S.S.R.	841
Ivory Coast	119	Venezuela	17,839
Jamaica	1,631	Vietnam	152
Japan	174,587	Yugoslavia	1,023
Jordon	2,343	Mutiple 1/	53,311
Kampuchea	31	Third tier 2/	67,311
Korea (South)	605	Subtotal 3/	5,466,269
Kuwait	1,635		
Laos	31		
Lebanon	13,282		

US/Andorra	3,741	US/France	1,040,909
US/Argentina	4,255	US/Germany	428,452
US/Australia	1,405	US/Greece	6,817
US/Austria	19,481	US/Gautemala	412
US/Bahamas	71,308	US/Guyana	334
US/Barbados	41	US/Honduras	37
US/Belgium	78,737	US/Hong Kong	130,659
US/Bermuda	38,764	US/Indonesia	197
US/Brazil	13,915	US/Iran	1,967
US/British Virgin Islands	3,110	US/Ireland	3,004
US/Canada	1,930,322	US/Italy	20,214
US/Cayman Islands	11,384	US/Japan	364,293
US/Chile	9,929	US/Kenya	32
US/China	15,018	US/Korea (South)	[illegible]
US/Costa Rica	407	US/Kuwait	7,561
US/Denmark	6,985	US/Lebanon	703
US/Ecuador	1,632	US/Liberia	26,683
US/Egypt	1,963	US/Libyan Arab Republic	280
US/El Salvador	533	US/Liechtenstein	51,921
US/Finland	3,107	US/Luxembourg	232,245

Appendix table 3.--U.S. agricultural landholdings by country of foreign owner, December 31, 1990, continued

US/Malaysia	300	US/Trinidad & Tobago	20
US/Mexico	280,038	US/Turkey	443
US/Netherlands	328,774	US/United Arab Emirates	2,108
US/Netherlands Antilles	225,465	US/United Kingdom	2,467,461
US/New Hebrides	2,991	US/Uruguay	618
US/New Zealand	47,010	US/Venezuela	37,973
US/Nicaragua	282		
US/Norway	8,333	US/Multiple	179,503
US/Panama	126,855		
US/Philippines	7,810	US/Third tier	386,184
US/Portugal	1,683	Subtotal 4/	8,979,472
US/Qatar	219		
US/Saudi Arabia	19,805	Total all landholdings	14,445,741
US/South Africa	4,404		
US/Spain	4,214		
US/Sweden	3,081		
US/Switzerland	288,857		
US/Taiwan	10,990		
US/Thailand	252		

1/ A report is processed as "multiple" when no single country predominates, for example, an equal partnership between a Canadian and a German. 2/ A report is processed as "third tier" if three or more levels of ownership are reported with no foreign interest indicated. 3/ Total interest excluding U.S. corporations with foreign shareholders. 4/ Total interest of U.S. corporations with foreign shareholders.

Returns to Cash Rented Farmland and Common Stock, 1940-1990

by Karl Gertel and John Jones*

Abstract: From 1940 to 1990, returns to farmland in four farming areas have varied relative to each other and to returns from common stock. Values of both farmland and stocks have undergone cycles in the past two decades with farmland values varying more than stocks. Long term real returns to farmland appear to converge at 5-6 percent, 1-2 percent below long term returns from stocks.

Keywords: Farmland values, internal rate of return, rate of return, returns, stocks.

Farmland constitutes the bulk of the farm sector's wealth. The performance of farmland compared with other investments is therefore important to farmers, other owners of farmland, and farm lenders. With increasing capital requirements for agriculture, the availability of capital from outside the farm sector is facilitated by information on the comparative performance of capital invested in farmland. To this end the performance of returns to farmland and stocks over the past 50 years is presented here (5,6).

Selections of Farming Regions and Stock Index

Most studies of long term values and returns from farmland are for States, a group of States, or the Nation (1,7,8,10,12,17). Results usually present averages for different types of agriculture and various nonfarm influences on farmland values. Moreover, it is hard to estimate landowners' costs and returns on a statewide or broader basis.

This report focuses on Agricultural Statistics Districts (ASD's) delineated by the U.S. Department of Agriculture and generally consisting of 9-10 counties. ASD's were selected to be representative of major agricultural regions. Final selection was made after screening the land value data for cash-rented farmland for consistency with values reported for all land in farms in the ASD and stability of the acres of land in farms over the period of analysis.

Four areas were selected to represent the Corn Belt, the winter wheat areas of the Northern Great Plains, the soybean/cotton areas of the Mississippi Delta, and grazing land in the Northern Great Plains. The areas selected were:

ASD 2 in north central Iowa, a predominantly cash grain area reporting 3.4 million acres of land in farms in the 1987 Census of Agriculture.

ASD 5 in central Kansas, a predominantly wheat growing area with 5.2 million acres of farmland.

ASD 1 in northwest Mississippi, a predominantly soybean/cotton growing area with 1.4 million acres of farmland in the upper Mississippi Delta.

Montana grazing land (excluding ASD 1 in northwest Montana because of recreational demand for land) covering approximately 38 million acres. A larger area was used because no single ASD in the grazing areas passed the selection criteria.

The stock indicators considered were the Dow Jones Industrial Average, the New York Stock Exchange Composite Index, and Standard and Poor's Index of 500 Common Stocks (S&P). The S&P index was selected for this study because it is representative of stocks traded on the New York Stock Exchange, as well as convenient and widely accepted.

Measurement of Investment Profitability

The standard equation for calculating the present value of an investment acquired at the beginning of year 1 and sold at the end of year n is:

$$V=\frac{a_1}{(1+i)}+\frac{a_2}{(1+i)^2}\cdots+\frac{a_n}{(1+i)^n}+\frac{V_n}{(1+i)^n}$$

V = current value of the investment at the beginning of year 1.

a_i = annual net income from the investment (net rent from farmland and dividends from stocks) in the year a_i, i=1,2,....n.

V_n = net proceeds from the sale of the investment at the end of year n.

i = the interest rate at which future income is discounted.

This method assumes that annual income is received at the end of the year. However, the timing of the receipt of cash rent and expenses varies among farming regions. Typically, rent is paid at the beginning and in the middle or latter part of the lease year. Dividends on stocks are generally paid quarterly. Therefore, equation 1 slightly understates the in-

*Gertel is an economist with ERS, USDA and Jones is a statistical assistant with ERS, USDA.

ternal rate of return and was adjusted to approximate the actual timing of income payments.

We developed estimates of annual income payments of net rents and dividends and of the value of the asset. We then solved for the interest rate (i) at which the current worth of the investment equals the price paid for the land or stocks at the beginning of year 1. This operation gives the internal rate of return on the investment. For a profitable investment, the internal rate of return at least equals the rate of return that could be earned in alternative investments, as well as the interest rate on funds borrowed to finance the investment.

The internal rate of return is a concise measure of the overall profitability of an investment, but other characteristics are also important to investors. These include the stability of asset value, the tax liability on asset returns, liquidity (ease of converting the asset into cash), and leverage (the proportion of the investment that can be financed).

Data

Market value and gross rent per acre on cash-rented farms and for cash-rented grazing land in Montana were obtained from annual surveys conducted by ERS and the National Agricultural Statistics Service. Information on current management fees for cash-rented farmland, the time the lease-year begins, and transaction costs of land purchases were obtained from farm managers and farm real estate agents in the areas analyzed. Landowners' expenses, consisting of real estate taxes, maintenance of improvements, and property insurance, were estimated from the USDA historic series of itemized expenses and from the USDA series of farm real estate taxes (18,19). From 1970, landowners' expenses were estimated from the USDA indices for major types of production expenses (20).

The index of value of stocks and dividends was obtained from the statistical appendix of the annual Economic Report of the President (2). Dividends were calculated from the ratio of dividends to stocks given in this report. Current stock transaction costs were obtained from the New York Stock Exchange.

Results

Table 1 gives internal rates of return by decades and from 1940 to 1990 for the four farming areas and the S&P 500 common stock index. Returns from farmland and stocks varied widely over the five decades and among the four farming regions.

The economic forces behind the land market in north central Iowa appear to be in a long term equilibrium because they resulted in a stable rate of return over the long run. From 1940 to 1970, the internal rate of return varied from 5.2 to 6.2 percent. The high returns of the 1970's and the negative returns of the 1980's did not alter the long term average. The internal rate of return from 1970 to 1990 was 5.6 percent. The internal rate of return of 6 percent from 1940-1990 is consistent with a mean annual rate of return of 5.7 percent from 1921 to 1986 reported by Falk for the State of Iowa (3).

Returns were also stable in central Kansas at a lower level. The low internal rate of return for the 1960's coincides with low wheat prices at the end of the decade.[1]

Compared with most other investment opportunities, farmland in northwest Mississippi was underpriced. From 1940 to 1960, the annual rate of return from rent was 10-13 percent. Farmland was also undervalued in other parts of the South. The reasons for such high returns have not been formally researched. Reinsel, who obtained similar results for the State of Mississippi, ascribes the high returns to lack of capital in the land market and immobility of labor (13).

1/ The decline in returns from wheat was partly offset by higher prices and income for beef cattle, which are typically raised on wheat farms in central Kansas. However, the net effect was declining real income per acre in the latter part of the 1960's.

Table 1.--Real internal rates of return from cash rented farmland and common stock 1/,2/

Period	North central Iowa	Central Kansas	Northwest Mississippi	Montana grazing land	S&P common stock
			Percent		
1940-49	5.2	5.1	13.4	9.5	4.3
1950-59	6.2	5.6	13.0	9.0	14.6
1960-69	5.6	2.1	11.9	6.0	4.9
1970-79	13.1	6.1	7.4	7.6	0.0
1980-89	-6.7	-4.2	-2.8	-6.0	9.6
1940-89	6.0	4.7	13.5	7.4	7.2

1/ The internal rate of return is the interest rate at which the discounted sum from annual flows of net rent or dividends plus the net proceeds from the sale of the land or stock equals the original outlay. 2/ Adjustment for inflation by the Consumer Price Index.

Internal rates of return, as well as the annual rate of return from rent, fell in subsequent decades and are more in line with returns on other investment opportunities. The high internal rate of return from 1940 to 1990 for northwest Mississippi can be explained by the high ratio of net rent to the original 1940 purchase price. From 1940 to 1990, the average net rent to the 1940 purchase price was 12.8 percent for northwest Mississippi, compared with 8.2 percent for north central Iowa.

From 1940 to 1960, internal rates of return on Montana grazing land also compared favorably to rates earned in north central Iowa and central Kansas. In this case, high rates of return were due to rapid growth in rent and matching increases in asset values. This trend also slowed in the 1970's.

The relative performance of farmland and stocks has varied over extended periods. The variation has been consistent with economic developments in the farm and nonfarm economy. All of the farming areas investigated outperformed stocks in the 1940's, when real farm income rose sharply while real Gross National Product declined in the mid-forties. Stocks did not fully recover from the depression until the 1950's when real GNP rose steadily while real farm income generally fell.

The long climb in stock prices reversed in 1969, and by 1970 real stock prices were 24 percent below their 1968 level. At the same time, real corporate profits had fallen by about one-third. Thereafter, corporate profits recovered but showed no trend except for greater year-to-year variation. Except for central Kansas, farm income held steady in the four farming areas in the 1960's.

Some insights into the highly volatile returns of the 1970's and 1980's can be gained from figure 1, which traces the ratio of dividends to stock prices, and figure 2, which shows the ratio of income to farm assets per acre, principally farmland, to price per acre[2].

Figure 1 suggests cycles in the ratio of dividends to stock prices. To understand the 1970's it is useful to go back to the 1950's when the ratio of dividends to stock prices fell almost continuously. Because of investor optimism, stock prices were rising faster than dividends. No asset price can indefinitely rise faster than earnings from the asset.

The dividend to stock price ratio bottomed out in the 1960's following a 21-percent decline in real corporate profits from 1955 to 1958. The 1970's brought an adjustment to the dividend to price ratio after real corporate profits again declined from 1968 to 1970. Through most of the 1970's, real stock prices fell while real corporate profits increased. With increased optimism, the ratio started to fall again in the 1980's as stock prices increased faster than dividends.

Figure 2 traces cycles in the ratio of income per acre from farm assets (principally farmland) to the average U.S. price per acre. A major cycle began in the early 1940's as growth of land values lagged behind a near doubling of returns to assets in the war years. Returns fell back in the mid-1940's and rebounded in the late 1940's. The ratio of returns to value fell through most of the 1950's as real farmland prices trended upward and real returns fell. This trend was commonly referred to as "the land value paradox."

The 1970-1990 cycle was a response to a more than doubling of returns in 1973. Thereafter, the ratio fell almost continuously until it bottomed out in the early 1980's. The dramatic rise in income in 1973, combined with low or negative real interest rates, sustained rising farmland prices while real income fell from its 1973 peak and showed no trend thereafter. The rising ratio of asset returns to prices per acre in the 1980's represents an adjustment to less optimistic income expectations and a sharp increase in the real interest rate on farm loans (4,16). The rising income to asset ratio in the 1980's resulted when farmland prices fell but returns per acre remained fairly constant.[3]

Risk

Risk is measured here in terms of the decline in the real value of the investment. Figure 3 traces the real price per acre in the four areas and the real value of the S&P index. The comparison is limited by the fact that farmland prices are estimates for relatively small areas, while the index is the average of actual sale prices of stocks representing diverse industries.

Nevertheless, it is clear that from 1980 to 1990, the percentage decline in real farmland values exceeded the decline of real stock prices from 1970 to 1980. (The decline was smallest in central Kansas, 55 percent from 1980 to 1990 compared with 33 percent for stocks from 1970 to 1980). The same is true for the average value per acre for every State in the Corn Belt and a number of other farm States. One has to go back to 1929-1934 to find comparable declines in stock values (15). There have been four major cycles in farmland

2/ Income from farm assets was calculated from annual data of farm receipts and expenses and was adjusted to exclude certain types of farms, such as fruit and vegetable farms, which account for only a small percentage of the farmland area but a much larger share of receipts (4). Expansion buyers purchase land to expand their business. They account for the majority of farmland purchases. Average costs are made up of a wide range, including farms with negative income. Farmland prices are more likely to be related to returns of expansion buyers than to average returns. Therefore income to farm assets was adjusted to reflect income to expansion buyers.

3/ In a discussion of the 1970's and 1980's, Runge and Halbach relate the instability of farm income and farmland values primarily to growing instability in world grain markets (14). Melichar traces the rise and fall in farmland prices from a financial perspective (9).

Figure 1

Ratio of Dividends to Price, S&P Index of Common Stock

Percent

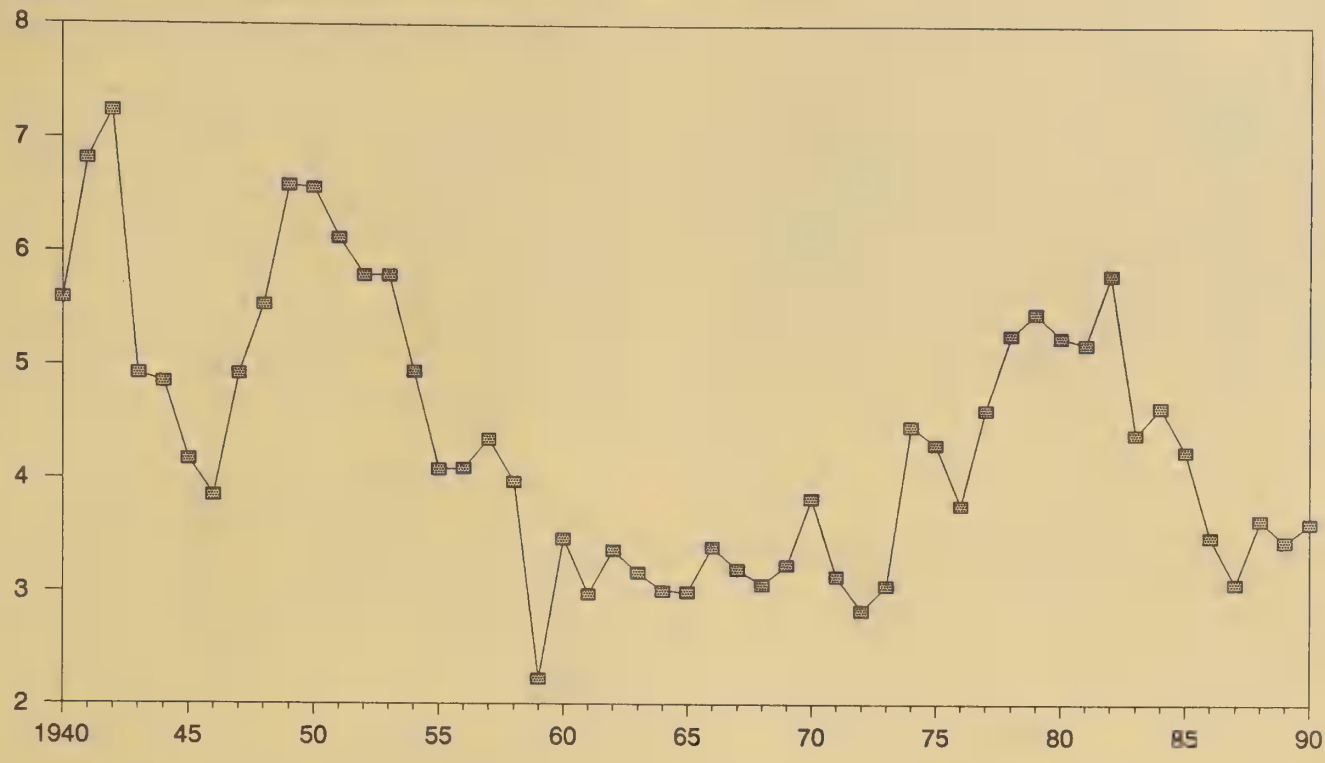
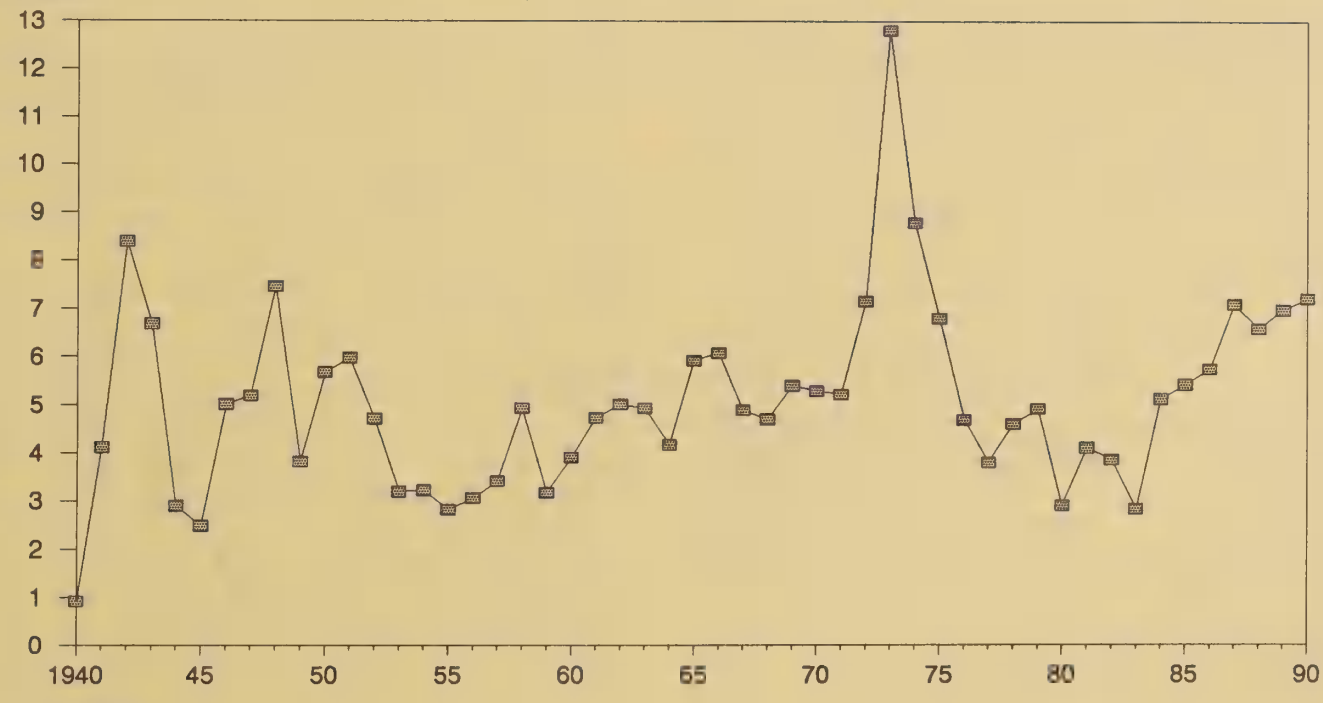


Figure 2

Ratio of Returns to Farm Assets Per Acre to Value Per Acre

Percent



U. S. average.

prices over the last 200 years (9). From 1914 to 1933, the average real value per acre of U.S. farmland declined 49 percent.

Taxes

Investors in cash-rented farmland and stocks face the same income tax schedule, but the farmland investor has an advantage because he can claim an allowance for depreciation of improvements. Unless the property has depreciable improvements in addition to a set of buildings, such as irrigation systems or flood control structures, this is a relatively small advantage. In 1989 buildings constituted an estimated 15 percent of the value of farm real estate in Kansas and 24 percent in Mississippi (21 percent nationally).

With a typical depreciation schedule of 5 percent, the depreciation allowance would come to approximately 1 percent of the value of farm real estate. If the owner is in a Federal income tax bracket of 28 percent, his Federal income tax savings would amount to about 0.3 percent of the value of his investment.

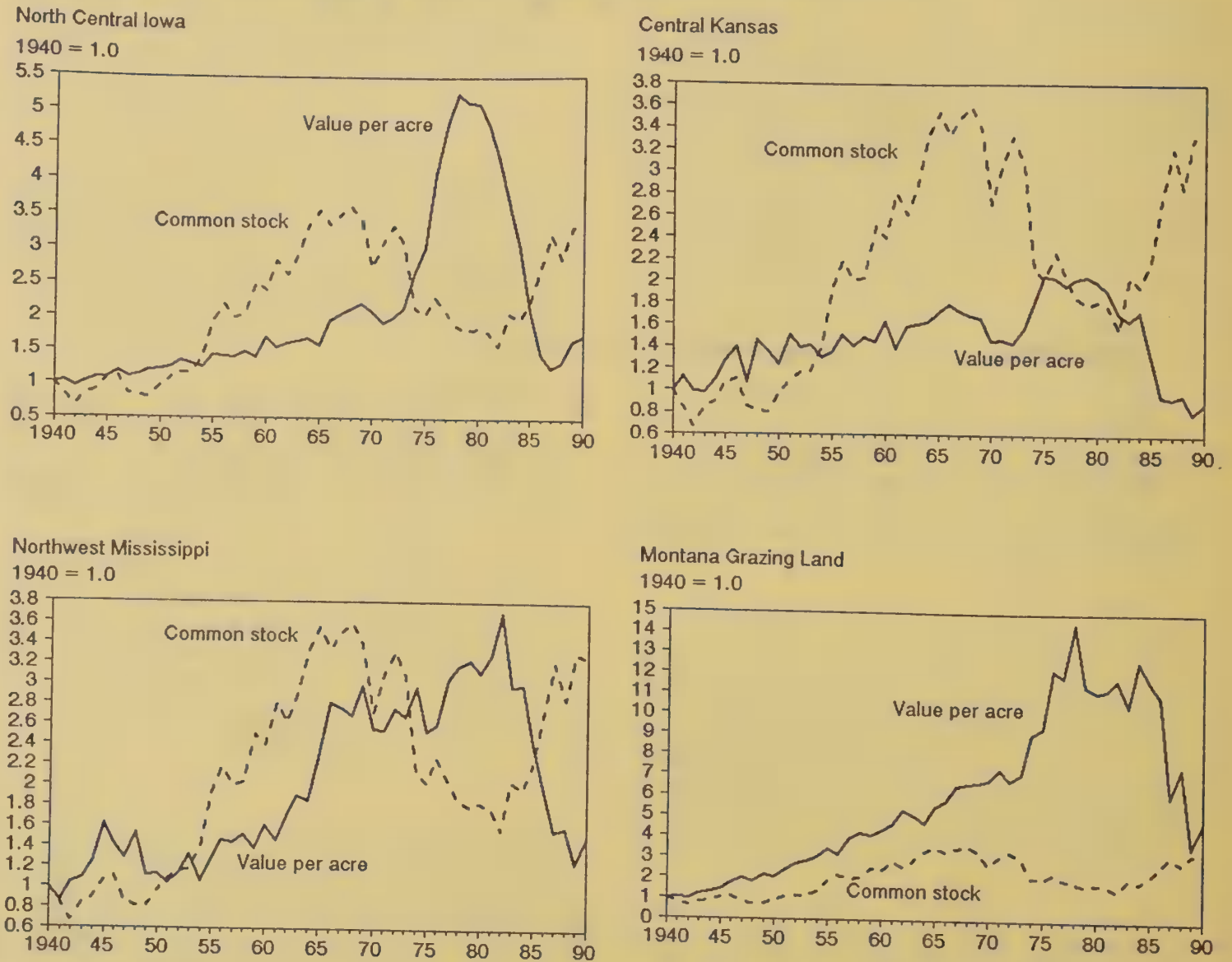
A further advantage to the farmland owner is the ability to schedule major outlays for repair in years of high income. However, the stock investor can more easily sell or exchange his holdings to obtain a tax saving.

Liquidity

Stocks are more liquid than farmland. They are traded in highly organized central markets and buyers have access to

Figure 3

Real Value Per Acre of Cash-Rented Farmland Vs. Value of Common Stock



Value per acre and Standard and Poor's Index of 500 Common Stocks adjusted for inflation by the Consumer Price Index.

standardized records of past earnings. Although some real estate brokers list farmland in most U.S. agricultural regions, information about farmland for sale is often confined to the community in which it is located and potential buyers have limited access to records of past earnings. Farmland sold in voluntary sales outside of owners' families in 1988 were approximately 2 percent of all privately owned farmland (21).

The ratio of the number of shares listed on the New York Stock Exchange to the number of shares sold was 55 percent in 1988 (11). Selling costs are higher for farmland, generally 5-6 percent of the sales price. For stock transactions of $10,000 or more, transfer costs range from less than 1 percent up to 3 percent of stock value depending on the services rendered.

Leverage

Credit extended to absentee investors by the Federal Farm Credit System and private lenders varies, ranging from 50-75 percent of the purchase price. Loans to absentee investors are generally a lower share of purchase price than loans to farm operators, which can be as high as 85 percent for the Farm Credit System.

The percent of equity required to purchase stock is set periodically by the Federal Reserve Board and is known as the initial margin requirement. The initial margin requirement is now 50 percent. It has ranged between 50 and 100 percent from 1940 to 1990. In addition, the New York Stock Exchange and individual brokerage houses may impose maintenance margin requirements throughout the investment period.

Summary and Conclusions

In a world where the future is known and capital shifts instantly to take advantage of higher returns, the rate of return on alternative investments would be the same. In the real world where future earnings are uncertain and capital moves slowly between sectors of the economy, rates of return on alternative investments can differ.

Internal rates of return varied widely among four agricultural areas and over time within the same area. Some of these differences, as in northwest Mississippi and on Montana grazing land, represent long downward trends of rates of returns that have been above the prevailing level earned on other investments. Large changes in internal rates of return over the past two decades are due to cycles extending over a number of years. These extended cycles appear to be triggered by sharp changes in income leading to changed expectations about the future. Shifts in real interest rates are also a contributing factor. Similar cycles were observed in the price of common stock.

In central Iowa, the internal rate of return during 1940-1970 ranged from 5.2 to 6.2 percent. The boom-bust cycle of the 1970's and 1980's did not change the long term average. Returns in central Kansas have been lower, averaging 4.7 percent from 1940 to 1990. Returns in northwest Mississippi and on Montana grazing land have been higher but are likely to fall to 5-6 percent over the long term.

The internal rate of return for common stock, as measured by the S&P index, was 7.2 percent from 1940 to 1990. Farmland offers advantages in tax savings and financing, while stocks offer more liquidity, and over the period examined, less variability of asset value. Taken together, these factors offer no clear advantage to either farmland or stocks. The 1- to 2-percent advantage to stocks may be because the majority of farmland buyers are engaged in farming and purchase farmland not only for return on capital but for the opportunity to employ their labor and management skills.

References

1. Alston, Julian M. "An Analysis of Growth of U.S. Farmland Prices, 1963-82," American J. Agr. Econ. Vol. 68, No. 1, Feb. 1986.

2. Council of Economic Advisers. "Economic Report of the President," Feb. 1990.

3. Falk, Barry. "Formally Testing The Present Value Model of Farmland Prices," American J. Agr. Econ. Vol. 73, No. 1, Feb. 1991.

4. Gertel, Karl. "Farmland Prices An Example of Economic Forecasts, Uses, And Limitations," U.S. Dept. of Agr. ERS Staff Report No. 880610, Sept. 1988.

5. Gertel, Karl and James A. Lewis. "Returns form Absentee Owned Farmland and Common Stock 1940-1979," Agric. Finance Review Vol. 40, April 1980.

6. Gertel, Karl. "Returns To Cash Rented Farmland And Stocks: A Social Perspective," ERS Staff Report No. AGES 820113, Sept. 1982.

7. Heady, Earl O. and Luther G. Tweeten. "Resources Demand and the Structure of the Agricultural Industry," Iowa State Univ. Press, Ames, Iowa 1963.

8. Kost, William E. "Rates of Return to Farm Real Estate and Common Stock", American J. Agr. Econ. Vol. 50, No. 2, May 1968.

9. Melichar, Emanuel. "A Financial Perspective On Agriculture," Federal Reserve Bulletin. Jan. 1984.

10. Melichar, Emanuel. "Capital Gains Versus Current Income in the Farming Sector," American J. Agr. Econ. Vol. 61, No. 5, Proceedings Dec. 1979.

11. New York Stock Exchange. "The New York Stock Exchange Fact Book," 1989.

12. Phipps, Tim T. "Land Prices And Farm-Based Returns," American J. Agr. Econ. Vol. 66, No. 4, Nov. 1984.

13. Reinsel, Robert D. "Land Rents, Values, and Earnings," contributed paper, American Agr. Econ. Assoc. Meeting, Alberta, Canada, Aug. 1973.

14. Runge, C. Ford and Halbach, Daniel. "Export Demand, U.S. Farm Income And Land Prices: 1949-1985," Land Economics Vol. 66, No. 2, May 1990.

15. Standard and Poor's, "Security Index Record," 1990 Edition.

16. Tegene, Abebayehu and Fred Kuchler. "The Contribution of Speculative Bubbles to Farmland Prices," ERS, USDA Tech. Bul. 1782, July 1990.

17. Tweeten, Luther G. and James E. Martin. "A Methodology for Predicting U.S. Farm Real Estate Price Variation," American J. Agr. Econ. Vol 48, No. 2, May 1966.

18. U.S. Department of Agriculture, Economic Research Service. "Costs and Returns on Commercial Farms," SB-297, Dec. 1961; SB-368, Mar. 1966; AIB-230 revised Sept. 1968; AIB-230, revised Sept. 1969.

19. U.S. Department of Agriculture, Economic Research Service. "Farm Real Estate Taxes," RET Series, 1956, 1969, 1975, 1976, 1981, 1983.

20. U.S. Department of Agriculture, National Agricultural Statistics Service, "Agricultural Statistics".

21. Wunderlich, Gene. "Trends in Ownership Transfers of Rural Land," Econ. Res. Service, Agr. Info. Bul 601, May 1990.

Agriculture and Capital Gains Taxation

by James Hrubovcak and Michael LeBlanc*

Abstract: This paper examines the effects on agriculture and the rest of the economy of restoring the preferential Federal income tax treatment of capital gains. Preferential treatment on appreciation in land values and sales of livestock held for draft, dairy, breeding, and sporting purposes is particularly important in agriculture. Results indicate restoring the capital gains exclusion would increase agricultural output and land values.

Keywords: Capital gains, efficiency

Introduction

This analysis differs from other studies on the potential impacts of restoring preferential tax treatment for capital gains (2,7,8) in that it specifically addresses the impacts on agriculture. However, the analysis does not ignore the fact that agriculture must compete with other parts of the economy for resources such as capital, labor, and land.

Capital gains are the profits investors earn when they sell any financial or physical asset such as stocks, bonds, or property. Over the last 2 years, partly in response to the downturn in the economy, there has been increased interest in restoring the preferential Federal income tax treatment of capital gains. Beginning in 1921 and ending with the passage of the Tax Reform Act of 1986, income derived from the sale of long-term capital assets was taxed at a significantly lower rate than other income.

The Tax Reform Act effectively eliminated the preferential treatment of capital gains by suspending the 60-percent exclusion of non-corporate long-term capital gains from taxable income. Restoring the 60-percent capital gains exclusion would mean the maximum effective tax on capital gains would be 11 percent rather than 28 percent.

Supporters of restoring preferential treatment for capital gains contend the current level of capital investment is inadequate. Lowering the capital gains tax rate, they argue, is an effective way to provide additional incentives for capital formation through increased investment and savings. Increases in capital formation will thereby stimulate economic growth and employment, and enhance U.S. competitiveness in world markets. On the other hand, critics maintain preferential treatment of capital gains is ineffective for promoting savings and capital formation, and for improving economic growth and employment (6). They contend that in the short term, the capital gains exclusion steers investors towards assets yielding high after-tax gains (office buildings and paintings) rather than assets that increase the productive capacity of the economy.

Recent proposals aim at restoring only part of the exclusion that existed prior to the pre-Tax Reform Act. In this analysis individuals are allowed to exclude 30 percent of the gain on qualifying capital assets. Most capital assets qualify for the exclusion and the exclusion is limited to individuals and other non-corporate taxpayers. In addition, gains from depletable or depreciable property used in a trade or business including: orchards and vineyards; farm machinery, equipment, and structures; livestock held for draft, dairy, breeding or sporting purposes; and timber are also eligible. Non-depreciable assets such as farmland would also be eligible for the exclusion.

A general equilibrium model is used to assess the effects of restoring preferential treatment of capital gains (4). Our use of the term general equilibrium corresponds to the well known Arrow-Debreu model (1) and closely follows the methods of Ballard, Fullerton, Shoven, and Whalley (3). While general equilibrium models have been used extensively to assess various tax proposals, they generally pay little attention to agriculture (3,5,6).

In our model, the economy is divided into 12 industrial sectors that produce 13 consumption commodities (figure 1). Agriculture is divided into program crops, livestock, and other agriculture. Individuals own all primary inputs (capital, labor, and land) which they provide to the industrial sectors in exchange for rents and wages. With the receipts they earn from providing these services, individuals either consume goods, pay taxes, or save. Decisions on which goods are produced, consumed, and how the primary inputs are allocated throughout the economy are determined by prices which reflect production technology, individual preferences, and tax laws.

Economywide Effects

Major tax policy changes, such as reinstating preferential tax treatment of capital gains, rarely target agriculture. Because tax policy changes may affect industries differently and because other parts of the economy compete with agriculture

* Economists, Economic Research Service, USDA.

for capital, labor, and land, this analysis emphasizes the general equilibrium effects of changes in Federal income tax policy. Changes in relative rather than absolute profitability between different parts of the economy affect output, returns, and the flow of resources, particularly capital, into and out of industries.

Restoring the capital gains exclusion offsets a portion of the tax liability on nominal gains, lowering the cost of capital and encouraging its use. As in other studies, this analysis assumes that capital income is taxed relatively more than labor income.[1/] Reasons for the higher relative tax rates include double taxation through both personal and corporate income taxes and the taxation of inflationary rather than real capital gains. Greater parity between the taxation of capital and labor income leads to gains in economywide efficiency and income. Efficiency gains are narrowly interpreted as increases in economywide income.

Within the context of this analysis, efficiency gains arise only by reducing the distortions of government actions. Eliminating or mitigating the distortions created by differences in tax rates leads to a reallocation of capital, labor, and land throughout the economy, leading to greater overall output.[2/] Results suggest restoring preferential treatment of capital gains leads to an increase in economywide output of $20 billion (0.4 percent).

How an industry is affected by restoring the capital gains exclusion depends on that industry's ability to generate and capture capital gains. This ability is determined by the financial structure of the industry, its relative profitability, and its use of capital and land relative to other inputs. Because capital intensive industries have proportionally greater capital gains, they draw capital, labor, and land from less capital intensive industries.

1/ One example is the work of Ballard, Fullerton, Shoven, and Whalley.

2/ This does not suggest that greater distortions do not exist in the economy nor that all the effects from shifts in land, labor, and capital, which are consistent with income increases, are socially desirable.

Figure 1
Economywide Divisions

Production Industries

Program crops 1/
Livestock 2/
Other agriculture 3/
Forestry

Manufacturing
- Construction
- Durable goods
- Most nondurable goods

Services
- Wholesale trade
- Retail trade
- Finance and insurance

Mining
Crude oil and natural gas extraction
Petroleum refining
Chemicals
Food and tobacco processing
Nonfarm real estate
- Residential housing
- Commercial real estate

Consumption Goods

Food
Alcohol and tobacco
Clothing and accessories
Housing
- Owner-occupied dwellings
- Tenant-occupied dwellings
- Rental value of farm dwellings

Furnishing and appliances
Other nondurable household items
Household utilities
- Electricity
- Gas
- Water

Motor vehicles
Transportation services
Gasoline and other fuels
Recreation
Financial and other services
- Personal business
- Education

Savings

1/ Program crops include barley, corn, cotton, grain sorghum, oats, rice, and wheat. 2/ Livestock includes meat, dairy, and poultry. 3/ Other agriculture includes fruits and vegetables, hay, and soybeans.

For example, output in the crude oil/natural gas and petroleum refining industries, two relatively capital intensive parts of the economy, increases by $1 billion (0.8 and 0.6 percent) when preferential treatment is restored (figure 2). Similarly, output in the services industry increases about $10.5 billion (0.4 percent). Outside agriculture and forestry, the largest percentage increase in output is in food and tobacco processing ($4.4 billion or 1.3 percent). Food and tobacco processing are affected directly from the capital gains exclusion and indirectly from cost savings from lower livestock prices. Purchases from the livestock sector are about 20 percent of total production costs in the food and tobacco processing industry.

Forestry production increases by about $300 million or 3 percent, the largest percentage increase in the economy. Unlike the output of other parts of the economy, timber is considered a capital asset under the Federal income tax code and receives preferential tax treatment. The preferential treatment of timber sales is restricted to non-corporate forestry operators.

Agriculture

An important source of capital gains in agriculture is land value appreciation. Because only a small percentage of farmland changes hands in any year, agriculture would not be expected to receive the same stimulus from restoring the capital gains exclusion as some other parts of the economy. However, extending the capital gains exclusion to sales of livestock held for draft, dairy, breeding, and sporting purposes provides a significant incentive for investment in agriculture relative to other parts of the economy. The value of the capital gains exclusion depends on the income tax rate, the capital gains exclusion, and the share of total taxable income generated by the sale of eligible assets. Sales of eligible livestock account for about 20 percent of the total number of animals sold and represent about 75 percent of total taxable income.

Extending preferential tax treatment on income earned from the sale of assets held for draft, dairy, breeding, and sporting purposes acts as a catalyst for all of agriculture, increasing overall output by about $2 billion or 1.0 percent. Livestock output alone increases $1.6 billion (1.5 percent) compared with $0.5 billion (0.8 percent) for non-program crops. Program crop output remains relatively unchanged because of greater competition for farmland by the livestock sector. Without preferential treatment on the sales of livestock, overall agricultural output would remain relatively unchanged.

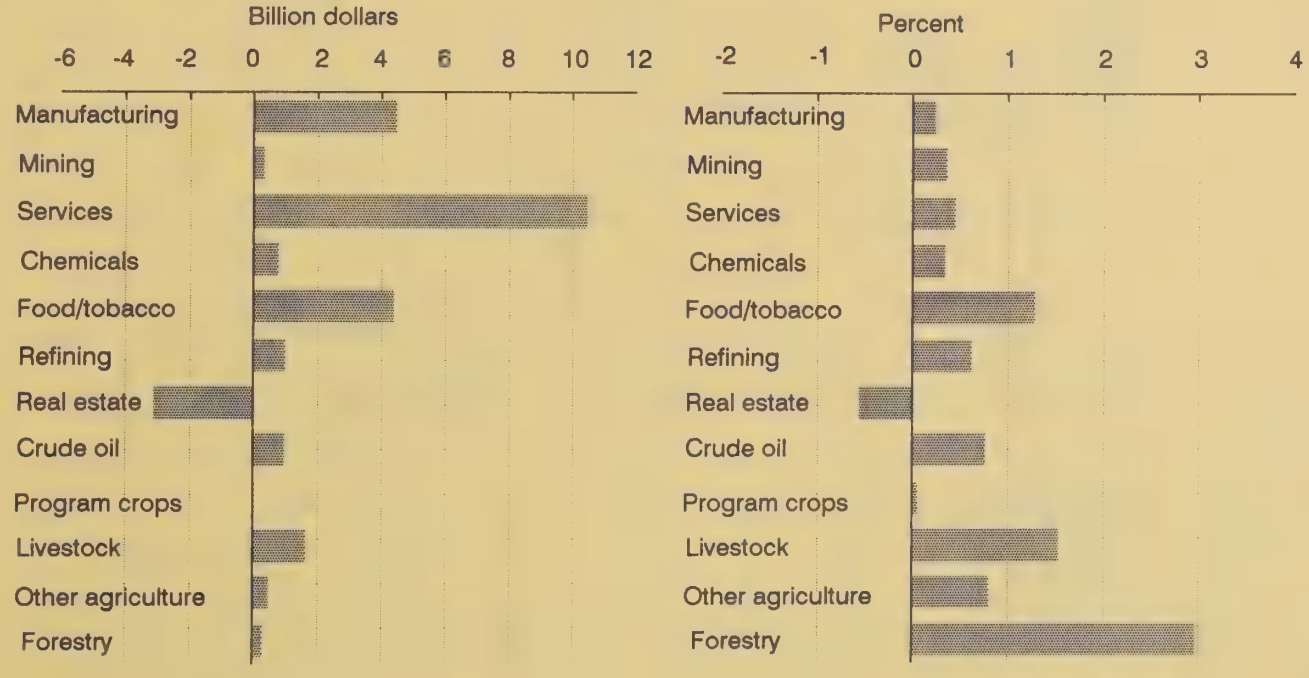
Factor Flows and Adjustments

Inter-industry effects associated with restoring the capital gains exclusion are, in large part, determined by the flow of capital, labor, and land between industries. Table 1 shows the simulated changes in capital, labor, and land use and the change in output in each industry when the capital gains exclusion is restored. Industries exhibiting the largest increase in output also exhibit the largest increase in the use of capital, labor, and land.

For example, the use of capital, labor, and land increase 2.2, 2.0, and 0.6 percent in livestock production and capital and labor use increase 1.0 and 1.5 percent in food and tobacco processing. Higher relative after-tax capital costs also cause capital to flow from manufacturing, nonfarm real estate, and

Figure 2

Change In Output When Preferential Treatment of Capital Gains Is Restored



chemicals into agriculture, forestry, food and tobacco processing, crude oil/natural gas, and petroleum refining.

Changing the allocation of capital, land, and labor also leads to greater output for each unit of capital in every industry except agriculture. For example, although manufacturing output increases only 0.2 percent, capital use falls by 0.1 percent. A similar increase in capital productivity (greater output for each unit of capital) occurs in mining, services, chemicals, food and tobacco processing, petroleum refining, and crude oil and natural gas. For agriculture and forestry, efficiency gains are shown by an increase in output relative to the amount of land in production. In livestock production, for example, output increases 1.5 percent while the amount of land devoted to livestock increases only 0.6 percent.

Factor Returns and Income Distribution

Efficiency gains also increase the returns to capital, labor, and land. For example, returns to labor and capital increase 1.0 and 1.6 percent. Similarly, competition for land between agriculture and forestry to support greater output causes land returns to increase 6.8 percent.

Greater economywide efficiency leads to an $8-billion increase in total income. While increases in efficiency lead to higher overall returns and income, the distribution of the gains will not be the same for all individuals (table 2). Results from this analysis indicate 48 percent of the increase in overall income will be captured by higher income individuals.[3/]

Conclusions

Reducing the tax on capital gains leads to a more efficient allocation of capital, labor, and land throughout the economy and greater overall output and income. The economywide increase in income is $8 billion with owners of capital assets and land benefiting most from higher returns.

An important element of this analysis includes restoring the capital gains exclusion to gains from depletable or depreciable property. Thus, earnings from the sale of orchards and vineyards; farm machinery, equipment, and structures; and livestock held for draft, dairy, breeding or sporting purposes are eligible for preferential tax treatment. Results indicate this element of the capital gains proposal sufficiently reduces the effective tax on capital income generated by agricultural assets so overall agricultural output increases by about 1 percent.

3/ Benefits include indirect benefits from higher returns to capital, land, and labor as well as the direct benefits from lower Federal income taxes.

Table 1.--Change in capital, labor, and land use when preferential treatment is restored

Industry	Capital	Labor	Land	Output
		Percent		
Program crops	0.7	0.5	-0.8	0.1
Livestock	2.2	2.0	0.6	1.5
Other agriculture	1.4	1.2	-0.1	0.8
Forestry	3.5	0.8	-1.6	3.0
Manufacturing	-0.1	0.3	n/a	0.2
Mining	0.1	0.5	n/a	0.4
Services	*	0.6	n/a	0.4
Chemicals	*	0.6	n/a	0.3
Food/tobacco processing	1.0	1.5	n/a	1.3
Petroleum refining	0.4	0.9	n/a	0.6
Nonfarm real estate	-0.8	-0.2	n/a	-0.6
Crude oil/natural gas	0.7	0.9	n/a	0.8
Total	n/a	0.5	n/a	0.4

* = less than 0.05 percent.
n/a = not applicable.

Table 2--Distributional impacts of restoring preferential treatment of capital gains.

Income class	Capital income 1/	Labor income	Share of benefits
		Percent	
$0-$9,999	7	4	5
$10,000-$14,999	7	5	6
$15,000-$19,999	7	7	7
$20,000-$29,000	11	20	17
$30,000-$39,999	10	20	16
Over $40,000	58	44	48
Total	100	100	100

References

1. Arrow, K., and F. Hahn. General Competitive Analysis. San Francisco, 1971.

2. Auten, G., and J. Cordes. "Cutting Capital Gains Taxes." Journal of Economic Perspectives. Vol. 5, No. 1, pp. 181-92. Winter 1991.

3. Ballard, C., Fullerton, D., Shoven, J., and J. Whalley. A General Equilibrium Model for Tax Policy Evaluation. A National Bureau of Economic Research Monograph. The University of Chicago Press. Chicago, 1985.

4. Boyd, R. "An Economic Model of Direct and Indirect Effects of Tax Reform on Agriculture." U.S. Dept. Agr., Econ. Res. Serv., Technical Bulletin No. 1743. February 1988.

5. Fullerton, D., R. Gillett, and J. Mackie. "Investment Incentives Under the Tax Reform Act of 1986." Compendium of Tax Research, 1987. Washington, D.C.: Internal Revenue Service, 1988.

6. Goulder, L., and L. Summers. "Tax Policy, Asset Prices, and Growth: A General Equilibrium Analysis." Journal of Public Economics. Vol 38, pp. 265-96. 1989.

7. Joint Committee on Taxation. "Explanation of Methodology Used to Estimate Proposals Affecting the Taxation of Capital Income From Capital Gains," JCS-12-90, U.S. Government Printing Office, Washington, D.C. March 27, 1990.

8. U.S. Department of the Treasury. "General Explanations of the President's Budget Proposals Affecting Receipts, January 1990.

U.S. G.P.O.:1991-281-063-40367/ERS

Get these timely reports from USDA's Economic Research Service

These periodicals bring you the latest information on food, the farm, and rural America to help you keep your expertise up-to-date. Order these periodicals to get the latest facts, figures, trends, and issues from ERS.

Agricultural Outlook. Presents USDA's farm income and food price forecasts. Emphasizes the short-term outlook, but also presents long-term analyses of issues ranging from international trade to U.S. land use and availability. Packed with more than 50 pages of charts, tables, and text that provide timely and useful information.

Economic Indicators of the Farm Sector. Updates economic trends in U.S. agriculture. Each issue explores a different aspect of income and expenses: national and State financial summaries, production and efficiency statistics, and costs of production for livestock and dairy and for major field crops.

Farmline. Concise, fact-filled articles focus on economic conditions facing farmers, how the agricultural environment is changing, and the causes and consequences of those changes for farm and rural people. Synthesizes farm economic information with charts and statistics.

Food Review. Offers the latest developments in food prices, product safety, nutrition programs, consumption patterns, and marketing.

Foreign Agricultural Trade of the United States. Every 2 months brings you quantity and value of U.S. farm exports and imports, plus price trends. Subscription includes two big 300-page supplements containing data for the previous fiscal or calendar year. A must for traders!

Journal of Agricultural Economics Research. Technical research in agricultural economics, including econometric models and statistics on methods employed and results of USDA economic research.

Rural Conditions and Trends. Tracks rural events: macroeconomic conditions, employment and underemployment, industrial structure, earnings and income, poverty and population.

Rural Development Perspectives. Crisp, nontechnical articles on the results of the most recent and the most relevant research on rural areas and small towns and what those results mean.

World Agriculture. Deals with worldwide developments in agricultural markets and trade with an emphasis on implications for global and U.S. agriculture.

❑ Check here for a free subscription to *Reports*, a quarterly catalog describing the latest ERS research reports. It's designed to help you keep up-to-date in areas related to food, the farm, the rural economy, foreign trade, and the en-

See next page for other periodicals available from ERS!

	1 year	2 years	3 years
Agricultural Outlook (11 per year)	_____ $26	_____ $51	_____ $75
Economic Indicators of the Farm Sector (5 per year)	_____ $14	_____ $27	_____ $39
Farmline (11 per year)	_____ $12	_____ $23	_____ $33
Food Review (4 per year)	_____ $11	_____ $21	_____ $30
Foreign Agricultural Trade of the United States (8 per year)	_____ $25	_____ $49	_____ $72
Journal of Agricultural Economics Research (4 per year)	_____ $8	_____ $15	_____ $21
Rural Conditions and Trends (4 per year)	_____ $14	_____ $27	_____ $39
Rural Development Perspectives (3 per year)	_____ $9	_____ $17	_____ $24
World Agriculture (4 per year)	_____ $21	_____ $41	_____ $60

Complete both pages of this order form ☞
Single copies of all periodicals available for $8.00 each.

Save by subscribing for up to 3 years. Save another 25 percent by ordering 50 or more copies to one address.

Situation and Outlook Reports. These reports provide timely analyses and forecasts of all major agricultural commodities and related topics such as finance, farm inputs, land values, and world and regional developments.

	1 year	2 years	3 years
Agricultural Income and Finance (4 per year)	____ $12	____ $23	____ $33
Agricultural Resources (5 per year, each devoted to one topic, including *Inputs*, *Agricultural Land Values and Markets*, and *Cropland, Water, and Conservation*.)	____ $12	____ $23	____ $33
Aquaculture (2 per year)	____ $12	____ $23	____ $33
Cotton and Wool (4 per year)	____ $12	____ $23	____ $33
Dairy (5 per year)	____ $12	____ $23	____ $33
Feed (4 per year)	____ $12	____ $23	____ $33
Fruit and Tree Nuts (4 per year)	____ $12	____ $23	____ $33
Livestock and Poultry (6 per year)	____ $17	____ $33	____ $48
Livestock and Poultry Update (monthly)	____ $15	____ $29	____ $42
Oil Crops (4 per year)	____ $12	____ $23	____ $33
Outlook for U.S. Agricultural Exports (4 per year)	____ $12	____ $23	____ $33
Rice (3 per year)	____ $12	____ $23	____ $33
Sugar and Sweetener (4 per year)	____ $12	____ $23	____ $33
Tobacco (4 per year)	____ $12	____ $23	____ $33
Vegetables and Specialties (3 per year)	____ $12	____ $23	____ $33
U.S. Agricultural Trade Update (monthly)	____ $15	____ $29	____ $42
Wheat (4 per year)	____ $12	____ $23	____ $33
Agriculture and Trade Reports (5 per year) Includes *Western Europe*, *Pacific Rim*, *Developing Economies*, *China*, and *USSR*.	____ $12	____ $23	____ $33

For *fastest* service, call our order desk toll free: 1-800-999-6779
(8:30-5:00 ET in the United States and Canada; other areas please call 301-725-7937)

- Use only checks drawn on U.S. banks, cashier's checks, or international money orders.
- ***Make payable to ERS-NASS.***
- Add 25 percent for shipments to foreign addresses (includes Canada).

☐ Bill me. ☐ Enclosed is $_____.

Name _____

Organization _____

Address _____

City, State, Zip _____

Daytime phone (_____)_____

Credit Card Orders:

☐ MasterCard ☐ VISA Total charges $ _____.

Credit card number: | | | | | | | | | | | | | | | | |

Month/Year

Expiration date: | | |

Complete both pages of this order form and mail to:

ERS-NASS
P.O. Box 1608
Rockville, MD 20849-1608

United States
Department of Agriculture
1301 New York Avenue, N.W.
Washington, D.C. 20005-4788

OFFICIAL BUSINESS
Penalty for Private Use, $300

Moving? To change your address, send this sheet with label intact, showing new address, to EMS Information, Rm. 228, 1301 New York Ave., N.W. Washington, DC 20005-4788.

FIRST-CLASS MAIL
POSTAGE & FEES PAID
U.S. Dept. of Agriculture
Permit No. G-145

What's Your Subscription Situation?

Your subscription to *Agricultural Resources* expires in the month and year shown on the top line of your mailing label. **The expiration date will appear in one of two formats:** FEB91 (for February 1991) or 910430 (for April 30, 1991). Disregard this notice if no renewal date appears. Renew today by calling, toll free, 1-800-999-6779, or return this form with your mailing label attached.

Agricultural Resources Situation and Outlook

Renewal

☐ Bill me.

☐ Enclosed is $_____.

	1 Year	*2 Years*	*3 Years*
Domestic	_____ $12.00	_____ $23.00	_____ $33.00
Foreign	_____ $15.00	_____ $28.75	_____ $41.25

Mail to:
ERS-NASS
P.O. Box 1608
Rockville, MD 20849-1608

Use purchase orders, checks drawn on U.S. banks, cashier's checks, or international money orders.
Make payable to ERS-NASS.

ATTACH MAILING LABEL HERE

Credit Card Orders:
☐ MasterCard ☐ VISA Total charges $_____.

Credit card number: | | | | | | | | | | | | | | | | |

Credit card expiration date: | | | **Month/Year**

For *fastest* service, call toll free, 1-800-999-6779 (8:30-5:00 ET)